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BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Identify Disadvantaged Communities in the San Joaquin Valley and Analyze Economically Feasible Options to Increase Access to Affordable Energy in those Disadvantaged Communities.	R.15-03-010 (Filed March 26, 2015)

SOUTHERN CALIFORNIA EDISON COMPANY'S (U 338-E) PILOT PROPOSAL UPDATE AND COMMENTS ON QUESTIONS

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I.

INTRODUCTION

In response to the August 3, 2018 Administrative Law Judge's Ruling Requesting Parties' Response to Ruling Questions, Providing Guidance on Pilot Project Updates, Updating Proceeding Schedule, Entering Documents into Record and Providing Additional Guidance to Specific Parties, Southern California Edison Company (SCE) hereby submits its San Joaquin Valley Pilot Proposal Update (Attachments A-D) and its comments to questions in the August 3 Ruling (Attachment E). The pilot update and the comments to questions are provided in attachments as described below.

II.

SCE'S ALL-ELECTRIC PILOT CONVERSION

On January 31 of this year, SCE submitted a high level pilot proposal to offer all-electric conversion to three communities in the San Joaquin Valley (SJV). In Attachment A to this pleading, SCE provides its updated pilot proposal in compliance with the August 3, 2018

Ruling.[1] Attachments B, C, and D contain SCE's community-specific supplemental information for the pilot update, which should be read in conjunction with Attachment A.

SCE is proposing an all-electric conversion pilot for customers who reside in the communities of California City, Ducor, or West Goshen and do not have access to natural gas. SCE will offer a range of weatherization services along with outreach to enroll in bill-reducing programs. Community solar will be used to offset the incremental costs that customers may incur due to electric conversion. The pilot will cost approximately $31 million (including administrative and outreach costs) and is expected to be implemented over a period of three years from the time of Commission approval.

There are three main changes between SCE's January 31, 2018 proposal and this update. First, the overall budget has decreased to $30.8 million from $37.5 million. Second, SCE proposes to offer the pilot to 500 income-qualified residents of California City instead of approximately 1,100 customers as originally proposed. SCE scaled back the size of the offering to contain costs, target subsidies to customers who could benefit most, and evaluate strategies that are potentially scalable to other SJV communities. And third, SCE proposes to support community solar through the new programs approved in the Net Energy Metering (NEM)[2] proceeding, instead of devoting incremental funding to separate community solar projects through these pilots. This reduces the incremental budget by approximately $7 million.

The goals of SCE's updated pilot are the same as they were in January: (1) advance the goals of the proceeding and Cal. Pub. Util. Code § 783.5,[3] (2) provide health, comfort, and safety benefits to the pilot communities at affordable rates, (3) align with state's long-term climate goals and near-term priority on air quality improvement in disadvantaged communities, (4) gain

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1 Specifically, the requirements are provided in Attachment 2 of the August 3, 2018 Ruling.

2 The programs include the Disadvantaged Communities – Green Tariff (DAC-GT) and DAC-Community Solar (DAC-CS) programs. The current NEM program was adopted by the Commission in D. 16-01-044 (R.14-07-002).

3 This was introduced as Assembly Bill 2672 (AB 2672) in 2014.

insights on scalability from a case study in electric conversation, and (5) balance the aforementioned goals with total project costs to ensure prudent expenditures of customer funds.

III.

SCE'S COMMENTS TO QUESTIONS IN THE RULING

In Attachment E, SCE comments on questions contained in the August 3, 2018 Ruling.[4] SCE's comments are shown *in italics* after each question.

IV.

CONCLUSION

SCE appreciates the opportunity to update its pilot proposal and comment on questions about the pilot. SCE requests that the Commission:

1. Approve SCE's updated pilot plan implementing three electric conversion pilots in the communities of West Goshen, Ducor, and California City;

2. Authorize SCE to spend a total of $30.8 million to be tracked in a balancing account as appropriate for cost recovery;

3. Authorize SCE to implement the pilot with an average behind-the-meter per-household cost of each pilot not to exceed $21,529, and, if needed, file a Tier 2 Advice Letter to increase in the average per-household cost and/or increase in total spend from the approved budget. If SCE experiences a higher than expected pilot participation rate, SCE will also include a request for increased budget in the Tier 2 Advice Letter.

4. Authorize SCE to (1) identify customers who intend to participate in SCE's pilots that are currently ineligible to receive certain weatherization measures through the ESA Program because they do not qualify as all-electric customers, but are anticipated to qualify for such measures after participating in the pilot, then (2) provide those weatherization services through the ESA program before the electric conversion is complete.

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[4] The questions are listed in Attachment 1 of the August 3, 2018 Ruling.

Respectfully submitted,

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September 10, 2018

Attachment A

SCE's Updated Pilot Proposal

in Compliance with Attachment 2 of the August 3, 2018 Ruling

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I.

PILOT PROPOSAL FOR SCE COMMUNITIES

A. Summary

Southern California Edison (SCE) proposes an all-electric conversion pilot for customers who reside in the communities of California City, Ducor, or West Goshen and do not have access to natural gas. SCE will offer new, efficient electric appliances at zero upfront cost to eligible participants, including highly-efficient heat pump space heating and cooling, cooking equipment, clothes dryers, and water heaters. At the same time, SCE will provide weatherization measures to help reduce bills and improve dwelling efficiency. SCE anticipates that the total project cost will be $30.8 million over three years. For more detail on the budget, see Section L below.

The pilot will gather information about San Joaquin Valley (SJV) communities that have limited or no access to natural gas, but continue to use combustible fuel sources such as propane or wood.

Although SCE's proposed three community pilots represent a small percentage of the San Joaquin Valley Disadvantaged Communities (DACs) that have been identified as part of this proceeding[1], the pilots will provide data to inform scalability to the larger SJV. Additionally and importantly, the pilots will provide meaningful health and safety benefits to pilot community participants in the state's more vulnerable and polluted locations.

Community engagement is an important driver of pilot success. SCE will continue to work closely with the Pilot Team,[2] Community Based Organizations (CBOs), local contractors, and all

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[1] SCE distinguishes here between SJV DACs and the more generic term, DACs: SJV DACs are the communities identified as meeting the definition of Disadvantaged Communities per California Public Utilities Code § 783.5, while DACs are a more general term referring to communities that the California Environmental Protection Agency has identified as having a high environmental burdens and vulnerable populations. See https://oehha.ca.gov/calenviroscreen/sb535.

[2] The "Pilot Team" consists of the Center on Race, Poverty & the Environment, Self Help Enterprises, and Leadership Counsel for Justice and Accountability.

interested stakeholders to expand awareness of and interest in the pilots, as well as to ensure successful implementation.

B. Background

The California Public Utilities Code § 783.5 provides legislative findings and the requirements that have shaped the California Public Utilities Commission's (CPUC or Commission) San Joaquin Valley proceeding.[3] The legislature found that the San Joaquin Valley faces unique circumstances due to its lack of access to natural gas service and required the Commission to initiate this Rulemaking (R.) 15-03-010 to explore the feasibility and cost of extending natural gas pipelines and increasing subsidies for electricity for residential customers. In Phase I of the proceeding, the Commission identified 170 disadvantaged communities that met the criteria established in the statute, related to households income levels, population size, and distance from a natural gas pipeline.[4] In Phase II of this proceeding, the Commission identified twelve communities and required SCE, Pacific Gas and Electric Company, and SoCalGas Company to submit pilot project proposals for 12 communities that are located within each utilities' service territory on January 31, 2018.[5] This proposal updates and refines SCE's January 31, 2018 submission.

C. Rationale for Community Selection

In compliance with the Commission's December 2017 Scoping Memo, SCE has developed its pilot proposals for the three communities in SCE's territory on the Commission's list of twelve pilot communities – California City, Ducor, and West Goshen.[6] Two of the three communities, Ducor and West Goshen, each have approximately 200 SCE residential electric accounts and zero access to natural gas. The third community, California City, is larger and more affluent with over 5,000 SCE residential

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3 This was introduced as California Assembly Bill (AB) 2672 in 2014.

4 *See* D.17-05-014 at p. 9 (Decision Adopting Methodology For Identification of Communities Eligible Under Section 783.5 and Providing Guidance on Economic Feasibility Study to Be Completed in Phase II).

5 *See* December 2017 Scoping Memo, at p.21, Ruling Paragraph 4; *see also* December 2017 Scoping Memo, Attachment A "Pilot Proposal Content and Form Guidelines," at p. 1.

6 *Id.*

electric accounts, of which it is estimated that approximately twenty percent do not have access to natural gas.

Many residents in the three communities – California City, Ducor, and West Goshen – do not have access to an affordable, clean source of energy for heating, cooking, and other household uses. While most SJV residents have access to electricity, many may not be able to purchase or install electric appliances for lack of financial means. Community demographics are expected to include residents who are elderly, low-income, or otherwise vulnerable to financial insecurity or environmental hazards. SCE proposes the three pilots described herein as a reasonable means to gather data and evaluate ways to provide access to clean, affordable energy services through electric conversion, leading to an increase in residents' health and safety while reducing overall household energy costs.

D. Expected Outcomes

1. Estimated Cost Savings for Participants

SCE has tried to balance pilot costs to all customers against the need to develop a proposal that provides access to cleaner and affordable energy alternatives for pilot participants. SCE expects that almost all participants in the pilot will realize reduced overall energy costs per household, but cannot guarantee this outcome because impact will depend on customer choices and a range of assumptions regarding pilot details. For example, the price of propane may differ from SCE's forecast. With that caveat, the estimates reflect SCE's analysis using the best available data sources, including a total bill impact analysis for each participant's consumption using an all-electric baseline suggests all pilot participants will realize lower overall energy bills as a result of SCE's electrification pilot.

Since its January 31 filing, SCE has refined calculations and assumptions. SCE has refined its analysis to include all customers with twelve months of energy consumption data in each of the three communities, a propane cost per gallon of $3.50,[7] multiple rate structures, and an increase in consumption for the heat pump space heating and space cooling (HPSH/SC) split system appliance

[7] SCE recognizes that propane costs have varied over time and will impact the individual energy cost savings. SCE and other pilot proposers used the $3.50/gallon propane rate based on community feedback at the workshops.

above the expected annual consumption in 2009 Residential Appliance Saturation Study (RASS), which was the primary source used in the energy analysis included in the proposal SCE filed on January 31, 2018. SCE's analysis assumes higher annual kWh consumption from HPSH/SC than the numbers from RASS because the 2009 RASS included so few customers with this type of heating and cooling system (2% penetration), and a larger sample may be necessary to more accurately assess the energy related outcomes of this measure. For additional detail on energy consumption used for the heat pump space heating and cooling analysis, see Appendix 1.

Based on the preliminary analyses, SCE estimates that most participants will see a decrease in their overall household energy costs.[8] Actual savings will vary based on each participant's individual consumption, rate structure, and the community in which they reside. SCE modeled scenarios that include analysis by community (West Goshen, Ducor, and California City), dwelling type (single family, multi-family and mobile homes) and electric rate structure (tiered, TOU[9] 4-9, and TOU-Prime[10]). In SCE's scenario representing outcomes for typical participants, SCE used the median savings calculation based on median usage for customers in each of the communities. Table I-1 below summarizes the savings for tiered rates and median consumption (median consumption is shown in Table I-3). Table I-2 shows ranges of expected monthly savings, including all credits (all-electric baseline, 20% DACs-Green Tariff and TOU 4 – 9 baseline credit) for all consumption levels and rate structures. Savings for additional scenarios are shown in Appendix 1. The difference between the low and high range of bill savings is primarily driven by dwelling type and water heater type. Table I-2 also defines median, high and low consumption for the three communities.

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[8] This pilot cannot guarantee bill reductions. Participation in subsidized rate programs such as All-Electric, DAC-Green Tariff, CARE/FERA, etc. is optional. Ultimately, customers who choose to significantly increase their appliance use after program participation could see a potential rise in their overall monthly energy costs. Energy education will be a core component of this effort.

[9] TOU is the acronym for Time-of-Use.

[10] TOU-Prime is anticipated to be available as a rate option in March 2019.

Table I-1

Expected Case Post-Pilot Energy Analysis

Estimated Customer Bill Impacts - All Communities, Median Consumption and Tiered Rates

Community	Dwelling Type	CARE?	Household Energy Costs Pre-Pilot			Household Energy Costs Post-Pilot						
			Electric	Propane	Total Pre Pilot Bill	Electric	All Elec Baseline Credit	Total Post-Credits	DAC-GT Discount	Total Post Pilot Bill	% Bill Change	Energy Savings per month
California City	Single Family	No	$1,246.61	$1,684.64	$2,931.25	$1,847.27	$249.48	$1,597.79	$0.00	$1,597.79	-45.5%	$111.12
	Multifamily	No	$699.05	$1,168.93	$1,867.98	$1,306.80	$249.48	$1,057.32	$0.00	$1,057.32	-43.4%	$67.56
	Mobile Homes	No	$606.56	$1,474.54	$2,081.10	$1,362.50	$249.48	$1,113.02	$0.00	$1,113.02	-46.5%	$80.67
	All	Yes	$903.50	$1,684.64	$2,588.14	$1,383.72	$249.48	$1,134.24	$226.85	$907.40	-64.9%	$140.06
Ducor	Single Family	No	$1,075.06	$1,684.64	$2,759.70	$1,666.75	$344.25	$1,322.50	$0.00	$1,322.50	-52.1%	$119.77
	Multifamily	No	N/A	N/A	N/A	N/A	$344.25	N/A	N/A	N/A	N/A	N/A
	Mobile Homes	No	$1,116.65	$1,474.54	$2,591.18	$1,861.29	$344.25	$1,517.04	$0.00	$1,517.04	-41.5%	$89.51
	All	Yes	$1,001.66	$1,684.64	$2,686.30	$1,491.81	$344.25	$1,147.56	$229.51	$918.05	-65.8%	$147.35
West Goshen	Single Family	No	$1,029.68	$1,684.64	$2,714.32	$1,576.72	$344.25	$1,232.47	$0.00	$1,232.47	-54.6%	$123.49
	Multifamily	No	$880.91	$1,168.93	$2,049.84	$1,434.42	$344.25	$1,090.17	$0.00	$1,090.17	-46.8%	$79.97
	Mobile Homes	No	$808.48	$1,474.54	$2,283.02	$1,496.95	$344.25	$1,152.70	$0.00	$1,152.70	-49.5%	$94.19
	All	Yes	$975.97	$1,684.64	$2,660.61	$1,462.75	$344.25	$1,118.50	$223.70	$894.80	-66.4%	$147.15

Table I-2

Expected Range of Post Pilot Monthly Savings for Different Consumption Levels, Rate Structures and All Credits[11]

	Consumption (kWh)		
	Median	High	Low
California City			
Tiered	$68 to $140	$67 to $146	$89 to $163
TOU 4 - 9	$25 to $64	$16 to $61	$56 to $112
TOU Prime	$71 to $134	$83 to $155	$87 to $159
Ducor			
Tiered	$115 to $147	$77 to $147	$143 to $172
TOU 4 - 9	$29 to $84	$62 to $65	$110 to $125
TOU Prime	$97 to $143	$147 to $157	$148 to $162
West Goshen			
Tiered	$98 to $147	$80 to $153	$109 to $168
TOU 4 - 9	$35 to $102	($90) to $89	$68 to $137
TOU Prime	$82 to $141	$56 to $150	$97 to $156

[11] All credits include: credit from higher all-electric baseline, 20% DACs-Green Tariff credit, TOU 4 – 9 baseline credit for TOU 4 – 9 rate structure.

Table I-3

Pre-Pilot Electricity Usage in Pilot Communities[12]

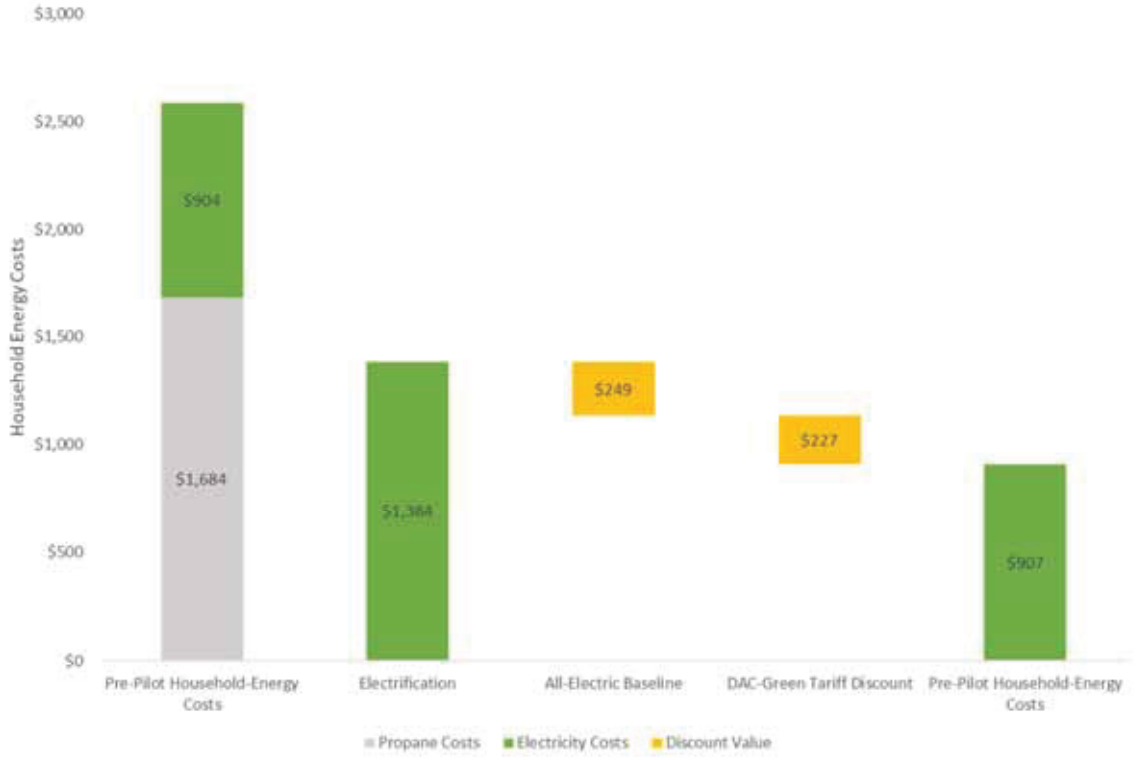
	Consumption (kWh)		
Housing Type	**California City**	**Ducor**	**West Goshen**
Single Family	7,869	8,017	7,258
Multifamily	5,446	N/A	6,424
Mobile Home	5,339	8,179	6,517
CARE/FERA	7,101	7,581	6,551

Figure I-1 below is a visual of the modeled impact of pilot participation on total household energy costs for a CARE-enrolled household with median consumption in California City.

[12] Numbers based on 2017 actual customer consumption data

Figure I-1

Expected Pilot Impact on Household Energy Costs for a CARE-Enrolled and Single Family Dwelling in California City



2. Rate and Bill Impacts for Non-Participating Customers

SCE proposes to fund the majority this pilot through incremental rates, recovered as O&M expenses and collected from all customers, while using existing programs to minimize the need for incremental funding wherever appropriate. Accordingly, this project would result in rate and bill impacts for all customers. If the entire $30.8 million[13] budget were approved and collected over two years through the Public Purpose Charge, residential customers in SCE's service territory would see an average rate increase 0.02 cents per kWh; the typical residential bill would increase by approximately

[13] SCE proposes to collect $28.99M through incremental rates. $1.790M is proposed to be funded through existing programs. SCE's rate impact analysis considers cost recovery of $30.8M a conservative estimate.

$0.12 per month.[14] Table I-4 below shows the rate impact by customer class, while Table I-5 shows the impact to CARE and non-CARE residential customers.

Table I-4

Rate Impact for Bundled Customers by Customer Class [15], [16]

Customer Group	Bundled Rates			
	June 1, 2018 Rates (¢/kWh)	Proposed Increase (¢/kWh)	Proposed Rates (¢/kWh)	% Increase
Residential	18.21	0.02	18.23	0.12%
Lighting - Small and Medium Power	17.37	0.02	17.39	0.12%
Large Power	12.36	0.01	12.37	0.12%
Agricultural and Pumping	13.54	0.02	13.55	0.11%
Street and Area Lighting	18.63	0.02	18.65	0.13%
Standby	10.24	0.01	10.25	0.12%
Total	16.29	0.02	16.31	0.12%

Table I-5

Monthly Bill Impact for Typical Residential Customers (CARE, Non-CARE) [17]

	Current	Proposed	% Change
Non-CARE residential bill	$ 111.32	$ 111.44	0.11%
CARE residential bill	$ 75.10	$ 75.18	0.11%

3. Environmental Benefits

This pilot is expected to provide environmental benefits as shown in Table I-6 below, at the state and local levels. Local communities and individual households will benefit from air quality

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[14] These cost increases would only last for the duration of cost collection. This analysis assumes costs are collected over two years. Annual rate impacts will decrease if the expenses are incurred over multiple years.

[15] While this table only shows rate impacts for bundled customers, direct access customers would also see a rate impact because SCE proposes to recover these costs through its Public Purpose rate component.

[16] Current rate based on June 1, 2018 effective rates. Bill impact calculated using June 1, 2018 sales forecast.

[17] The entries in Table I-5 estimate the bill impact for a typical customer in the two listed categories. The calculations assume the customer consumes 550 kWh, receives service on the general service tariff (and the CARE rate, where appropriate), and resides in baseline Region 9.

improvements as a result of reductions in Particulate Matter (PM) from wood burning and greenhouse gases (GHG) such as Carbon Dioxide (CO2).

The environmental footprint of electric appliances is improving as more electricity generation comes from renewable, zero carbon, and/or zero-emission resources under California law. By 2020, at least 33% of Investor Owned Utilities' (IOUs) electric supply will come from renewable resources; by 2030, at least 50% of electricity will come from carbon-free sources. Accordingly, the environmental benefits of switching from propane or wood to electricity through appliances installed from this pilot will improve over time and adjacent areas will also benefit from this GHG focus.

Table I-6

Environmental Benefits – Estimated GHG and Criteria Air Pollutant Benefits

	California City	**Ducor**	**West Goshen**
Estimated GHG Benefits	lbs/yr	lbs/yr	lbs/yr
CO2 (carbon dioxide) reductions	1,822,248	552,337	780,552
CH4 (methane) reductions	2,744	835	1,168
Estimated Criteria Air Pollution Benefits			
In-home[18]	NA	NA	NA
Outside of home [19]	31.8	9.7	13.5

4. Non-Energy Benefits

Non-Energy Benefits (NEBs) commonly included as elements of cost-effectiveness tests are typically viewed from a variety of participant, utility and societal perspectives. NEBs often include the following:

- Health and safety;
- Air quality improvement;
- Reduced arrearages.

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[18] The in-home air pollution is not estimated because SCE has insufficient data at this time to determine the annual wood and propane consumption for cooking by customers in the pilot communities. Additionally, the indoor pollution (also indoor air quality) is generally dependent upon indoor ventilation, which is also highly subjective. SCE has labeled these potential pollutant benefits as "NA", for "Not Available".

[19] Total particulate matter is the sum of the pollution generated by the four gas appliances for each dwelling type converted from lbs/mmbtu to lbs/therm.

NEBs often are difficult to quantify, but may be useful for policy objectives. SCE is uncertain what primary NEBs the Commission is considering for inclusion into the cost-benefit analysis. The Commission may ultimately adopt additional NEBs beyond what SCE has provided as a starting point. SCE anticipates the pilot will provide some of the more commonly assessed NEBs noted above as well as additional NEBs such as job creation and GHG reduction. The evaluation will seek to assess the extent to which these are realized. Specifics around local hiring, workforce development, and community engagement practices will be one of many factors in consideration of awarding bids, to achieve the core pilot goals in a cost-efficient and potentially scalable fashion. It is expected the pilots will inform best practices for future broader-scale deployment of clean energy technologies and building electrification.

E. Key Changes Since SCE's January 31, 2018 Proposal[20]

1. Size & Scope

In its January 31, 2018 pilot proposal, SCE proposed to serve all customers without access to natural gas in all three communities. In this updated proposal, SCE proposes to serve the entire communities of West Goshen and Ducor, but limit the size of its California City proposal to no more than 500 income-qualified participants. See Attachment B – California City for further detail and rationale for the change.

2. Budget

The budget request for this pilot proposal is $30.8 million, Table I-11 representing a decrease of $6.8 million from SCE's January 31, 2018 proposal. This change in the budget request is driven by several factors including the reduction in number of participants participating in the pilot, the revised approach to community solar, and changes to estimated costs of appliances and labor. Additionally, this

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[20] This section is in compliance with Attachment 2 to the August 3, 2018 Ruling, which requires that SCE clarify additions to the previously submitted proposal. For the ease of the reader, SCE is not creating a redline version, which would be confusing due to significant formatting. Instead, SCE explains the differences here, as well as in the community-specific information in Attachments 2, 3, and 4.

updated proposal has identified pilot components that can be funded by new or existing programs (e.g., the community solar projects and a portion of the weatherization activities).

3. Approach to Community Solar

SCE's January 31, 2018 pilot proposal requested incremental funding to build one or more community solar projects and to provide participants with a bill discount associated with clean renewable energy. In this updated proposal, SCE proposes to instead leverage the new programs approved in the Net Energy Metering Rulemaking (R.) 14-07-002 to potentially provide clean renewable energy to the pilot participants. This proposal is discussed below in Section G, "DAC-Focused Green Energy Programs."

4. Regulatory Check-ins

SCE proposes to review pilot progress with Energy Division, provide updates to the Commission on budget spend and participation rates, and can provide an update after completion of home treatment and appliance installation for an initial round of participants. This check-in should provide SCE with data on the participation rate of participants, the conditions of the homes being treated, participant preferences and feedback, and budget impacts. Additionally, should changes to implementation or budget be needed to meet the objectives of the proceeding and the pilots, SCE will file an advice letter requesting such change and the basis for such change.

F. Goals

This pilot is designed to advance the goals laid out by the legislature in Cal. Pub. Util. Code §783.5, to provide data on potential program scalability, benefit the community's health and safety, and reduce overall household energy costs. These goals are consistent with the state's long-term climate goals and near-term priority on air quality improvement in DACs.

G. Pilot Offerings

1. Summary of Offerings

SCE's pilot will offer all-electric appliances along with a suite of services, programs, and rates designed to support the feasibility and efficiency of the conversion. Weatherization will improve the overall energy consumption and cost-efficiency of the new electric appliances and of the home

overall. Customized participant outreach including translation of marketing material into multiple languages will drive enrollment in the program and ensure that participants are (1) aware of the pilot, (2) understand the benefits and impacts of the pilot, (3) can enroll in the pilot along with additional programs that can manage bills. These offerings, and others, are described in more detail below. The following section, Implementation Considerations, describes the key issues and risks that SCE will consider as it implements the projects.

SCE will provide these offerings at zero cost to participants and does not propose to pursue a "cost-sharing" arrangement whereby participants would be required to cover a portion of the pilot's cost. SCE's pilot primarily targets customers across the three communities that have limited to no ability to provide significant out-of-pocket expenses.[21] To the extent other non-SCE SJV pilot proposals are including a cost-share mechanism in their proposals, SCE would evaluate them to inform future program design. SCE will also consider including cost-sharing feedback from pilot participants to better understand participants' willingness/ability to participate in a cost-shared based program offering.

2. Size and Scope

SCE describes the size and scope of each pilot offering in the community- specific Attachments B, C, and D.

3. Personalized Energy Cost Analysis

SCE will work with each potential pilot participant to develop a preliminary energy cost analysis. During this analysis, SCE will:

- Conduct a participant-specific preliminary bill-impact analysis. SCE will estimate the potential change in total household energy costs based on the participant's specific current energy expenditures and household conditions. This analysis will be based on multiple factors, including participant's current propane and electricity usage; the number of propane appliances the participant has, and the

21 Requiring financial contributions from homeowners or building owners could be a barrier to participation for most of SCE's pilot participants. This could result in higher levels of non-participation impacting the ability to collect meaningful data in these already smaller population communities.

specific appliances the participant intends to convert to electric; the historical price that participant has paid for propane; any new programs and/or rates in which the participant may enroll.

- Help participants identify bill-saving and/or clean-energy opportunities that the participants can take advantage of and enroll. SCE (and/or a CBO partner) will then guide participants through the enrollment process, should those participants choose to enroll in those programs.
- Educate participants on the new appliances and behavioral changes associated with new appliances.

SCE, through coordination with CBOs and its assigned contractors, will conduct this work during the initial outreach and program enrollment period.

4. Appliance Replacement

a) Standard Appliance Offering

SCE will provide eligible participants with up to four different electric appliances: water heaters, combined space heaters/air-conditioning space coolers, cooktops/ovens, and clothes dryers. SCE will offer these appliances because these appliances represent the majority of residents' current propane usage.[22]

Pilot participants will be eligible to receive a given appliance if the participant either (a) has a propane-fueled version of the specific appliance, (b) has an electric-fueled version of the appliance that is less efficient than the appliance SCE is offering, or (c) does not currently have the

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[22] This conclusion is based on analysis showing that the bulk of natural gas customers' usage goes to water and space heating and is anecdotally supported by feedback from community residents during community meetings held in multiple pilot communities. For analysis supporting conclusions regarding the breakout of participants' energy usage, *see* the U.S. Energy Information Administration's 2015 Residential Energy Consumption Survey, *available at* https://www.eia.gov/consumption/residential/data/2015/c&e/pdf/ce5.4.pdf.

appliance. In cases where SCE replaces an existing appliance, the participant must give the old appliance over to SCE or its subcontractor[23] for disposal or recycling.

For most participants, the most efficient available technology for each appliance will be: heat pump water heaters, heat pump space heating and cooling, radiant (i.e., electric resistance) glass cooktops/ovens, and electric resistance clothes dryers. Although the upfront cost of heat pump appliances is typically higher than the upfront cost of electric resistance appliances, heat pump appliances are much more energy efficient. For the high usage appliances – water heating and space cooling/heating – the higher efficiency of heat pumps saves enough energy and operating costs to justify the higher costs. In some cases, however, participants will only be able to install electric resistance water heaters because of logistical constraints (e.g., insufficient space). For the benefit of this proposal, SCE conservatively assumed that every participant in a multi-family unit or mobile home can only install electric resistance water heaters.

Upon pilot approval, SCE will work with participants and vendors to determine the specific technology, brand, and model of appliance to offer each participant. The final choice will depend on multiple factors,[24] and SCE will learn more when it issues its Request for Proposal (RFP) for appliance replacement.

As detailed in later sections, SCE will provide additional educational services to support the safe and efficient operation of the new appliances. Further, SCE will work with CBOs to demonstrate and educate participants on the functionality of electric stovetops and cookware (among many other topics).

b) Grid-Responsive Heat Pump Water Heater Study

SCE will also incorporate a study related to grid-responsive water heaters funded through its approved Emerging Technologies Program (ETP) and Emerging Markets & Technology

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[23] SCE includes this requirement because it guarantees that the new appliance displaces use of the old appliance, consistent with the fuel switching goal of the pilot and proceeding.

[24] Appliance selection will be influenced by factors such as physical site space, as required for heat pump water heaters, and SCE's ability to procure appliance at a competitive and volume based discounted price.

Program (EM&TP) budgets to glean additional learnings on this particular measure. For this effort, SCE will identify four customers in each community whose heat pump water heaters (HPWH) will be outfitted with a two-way communication and control device that SCE can remotely operate to help manage peak household energy demand. The communication device will signal the water heater to heat the water during off-peak times and avoid heating the water during peak periods throughout the day. SCE would set the heating cycles such that hot water would be available when the customer needs it.

SCE seeks to enroll twelve participants in the study component of the pilot, four from each community. SCE will encourage customer participation by offering a nominal incentive such as a gift card or bill credit. To be eligible for this study, SCE intends to target participants who live in single family dwellings with garages or other suitable temperature controlled available space on site to allow for the efficient operation of the HPWH.[25]

This study will help SCE learn how aggregated distributed energy resources can be used to benefit the grid and how residents respond to this technology to manage energy consumption through TOU signals as well as usage patterns.

c) Equipment and Installation Warranty

For this pilot, SCE will provide qualified pilot participants with new appliances. At a minimum, SCE will provide all manufacturer's equipment warranties to the owner of the equipment. To supplement short warranty periods, SCE will require equipment vendors to price out extended warranties to cover the electric appliances for the duration of SCE's pilot or two years after equipment installation. Additionally, to ensure proper equipment installation SCE will require its installation contractor to guarantee the installation of the electric appliances for the duration of the pilot or two years after installation. These extended warranties would help mitigate the risk of appliance failures or repairs during the pilot period to support continued electrification of pilot participants' homes. SCE proposes to use contingency funds to address appliance costs and extended warranties

[25] SCE considered piloting the grid-responsive water heaters with commercial customers such as schools, fitness centers, community centers, etc. However, these commercial entities have a minimal demand for hot water as compared to residential customers, therefore SCE selected to focus this sub-pilot on the residential segment.

should they be greater than budgeted. However, to maintain pilot costs, any appliance failures outside of the extended warranty period would be the responsibility of the pilot participant.

d) Electrical Upgrades

SCE anticipates that many participants' homes will require upgrades to their electric wiring to safely accommodate their new electric appliances. SCE expects that the condition of participants' wiring will vary greatly, and so will the type and depth of required upgrades. Examples of likely upgrades include the electrical panel and wiring and to-code updates such as proper electrical load to circuit balancing within the panel, minor in-home electrical wiring such as new electrical outlet for the stove or dryer, and proper grounding.

SCE will contract with vendors who are appropriately skilled (and licensed where applicable, e.g. electricians, plumbers) for the specific task. SCE's selected pilot implementer(s) will coordinate contractor activities to minimize cost and disruption to participants during the home improvement and appliance installation phase of the project. Streamlining the number of contractors for inspection and installation of appliances will reduce the number of contractors that participants must allow in to their homes and minimize contractor startup costs associated with training for the pilot.

At this time, SCE does not know the amount of panel upgrades, wiring needs, and breakers necessary for pilot participation. As such, SCE conservatively assumes that each participant will require a panel upgrade, new conduit wiring and a new breaker for each appliance at an expected average cost per household of $4,530.[26] These upgrades represent a minimum level of investment required to support the operation of the appliances contemplated by the pilots. SCE recognizes that certain participants' homes may require greater levels of investment to reach code. However, if a home's wiring, for example, requires a total rewiring of the home to meet code and safely support the new appliances, SCE has not made provisions in this pilot to absorb the cost associated with a complete rewiring of the home, and may therefore have to eliminate the participant from pilot participation.

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[26] Original estimate of $5,663 is based on combination R.S. Means (cost estimating tool) and contractor estimate.

Every effort within reason and cost will be made to enable participation while staying within program and household cost caps.

SCE does not have sufficient information at this time to estimate the number of participants who will require wiring upgrades, or to confidently estimate a reasonable range of costs for that work. SCE will gain insight into this process during the first round of customer outreach and enrollment. Thus, SCE proposes an average household expenditure cap at the community level, rather than a fixed household cap. This topic is addressed in greater detail in the budget section below.

5. Weatherization Efficiency Measures

SCE will offer participants weatherization measures to improve the cost and energy-efficiency of their residences. This offering is consistent with, and elaborates on, SCE's initial proposal from January 31, 2018.

SCE will offer two packages of weatherization measures (basic and enhanced) to all qualified pilot participants. The basic weatherization package will utilize the Energy Savings Assistance (ESA) Program funds for participants in the pilot that qualify for ESA weatherization measures at the time of implementation. If the participant benefits from basic weatherization measures but is not income qualified, SCE will provide ESA-equivalent weatherization measures for those participants.[27] The enhanced weatherization package will supplement the basic weatherization package and will be offered to all participating and qualified pilot participants as necessary. This enhanced package is designed to provide an additional level of weatherization at a minimal additional cost to improve the envelope of the

[27] Use of ESA program funds in SCE proposal are contingent on the Commission allowing a one-time exception to the ESA program rules to allow weatherization for eligible ESA customers (who may be using propane or otherwise) to qualify for treatment despite the lack of a space-heating unit upfront. SCE requests the Commission to allow SCE to provide ESA weatherization measures prior to or at the time, the installation of electric space-heating. Today, SCE would not be allowed to provide ESA weatherization, if the resident did not already have electric space heating. (IQP is This Correct)?

residence. In particular, these measures would properly seal the residence to avoid unwanted temperature losses that may impact the efficiency of the electric appliances.[28]

The measures will be provided via a similar process SCE uses with the ESA Program. SCE or its vendor will send a qualified home health assessor to perform an in-home assessment to identify the basic weatherization and treatment needs for the home or tenant units that qualify for the basic weatherization measures. Based on the assessor's recommendation, some or all of the following measures will be provided and funded through appropriate program funding sources depending on eligibility and need:

- The basic ESA weatherization package may include envelope and air sealing measures targeting seams, gaps and cracks where homes would be subject to air loss (may include outlet cover plate gaskets), attic access weatherization, weather-stripping for doors, caulking and minor home repairs predominately consisting of door jamb repair/replacement, door repair, and window putty.[29] Although not a weatherization measure, SCE also proposes to offer eligible ESA participants with a Programmable Control Thermostats (PCTs) as part of ESA, subject to future approval of the Commission on SCE's ESA mid-cycle filing.[30]
- The enhanced weatherization package inclusive of a budget for up to an additional $500, as needed, to support supplemental weatherization needs for participating qualified participants. The additional enhancements are not expected to be significant (e.g., they would exclude full rehabilitation of the dwelling or roof

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[28] The ESA program is designed for all eligible SCE customers at a basic level, instead of deeper weatherization measures for a limited number of SCE customers. LIWP generally provides the deeper weatherization measures in California because the ESA program is a much more expansive and far reaching program.

[29] A description of ESA program weatherization measures can be found in SCE's Energy Savings Assistance Program Manual Section 209.

[30] There are several requirements for PCTs to be functional and effective, including but not limited to: continuous access to wireless internet; electric appliances that can communicate and receive instructions from the PCTs; sufficient load to participate in Utility Demand Response Programs and customer interest to provide sufficient load reduction to provide value to the customer and grid.

replacement) or go beyond the reasonable need to remedy common weatherization issues. The enhanced weatherization package allows SCE to address home weatherization needs that are not covered in the basic ESA weatherization package that would improve overall efficiency of the appliances in the home (mainly heating and cooling). Examples of these types of enhancements may include:

- Minor patchwork for holes that penetrate through walls, floors or roofs that create energy leakage
- Broken door replacement
- Deeper levels of insulation, and other relevant envelope sealing that improves the efficiency of the home

SCE will coordinate with other weatherization service providers, such as the Department of Community Services and Development (CSD) to improve the pilot's impact and/or defray project costs. SCE will investigate whether CSD has the resources and opportunity to provide the enhanced weatherization through the existing Low Income Weatherization Program (LIWP) as a leveraging and partnership opportunity. SCE has partnered with CSD through the ESA program to make sure there is no duplication of services and as an opportunity exists to leverage both the ESA and LIWP program, as appropriate. SCE is uncertain whether LIWP will be able to provide deeper levels of weatherization resources at the time of pilot launch for participants.[31]

6. Enrollment in Bill-Saving Rates, Programs, and Tariffs

As discussed in the Personalized Energy Cost Analysis page 13 above, SCE will work with each pilot participant to develop a Personalized Energy Cost Analysis. As part of this analysis, SCE will help participants identify bill-saving and/or clean-energy opportunities. In partnership with local

[31] SCE intends to discuss leveraging opportunities with CSD's LIWP program. However, at this time, it is unclear what the specific asks and pilot dates are to plan for potential partnership commitments.

CBOs, SCE will then guide participants through the enrollment process, should those participants choose to enroll.

SCE seeks to leverage existing, complementary programs when possible to enable participants to take advantage of existing programs that can further reduce their bills or increase the range of services they are eligible to receive. This section identifies some, but not all, of the programs that SCE will consider as part of the Personalized Energy Cost Analysis. Phase II in Section 2, Community Education and Outreach provides greater detail on how SCE plans to work with CBOs to provide participants with streamlined access to existing programs.

Through the Personalized Energy Cost Analysis, SCE will inform customers about the availability, costs, and benefits of participation in the following programs:

- California Alternative Rate for Energy (CARE) and Family Electric Rate Assistance (FERA). SCE will place a strong emphasis on CARE and FERA enrollment because these programs provide significant discounts and support reductions in overall household energy costs. Even though CARE penetration rates are high in the region[32], SCE will emphasize the importance of enrollment in these programs given the level of discount they provide.
- Energy Savings Assistance Program. As described above, SCE will assist eligible customers to receive the services and measures offered through ESA program.
- All-Electric Baseline. Enrolling in the All-Electric Baseline provides participants with a higher annual baseline allowance. Under most rate schedules, higher baseline allowances directly translate to bill savings. Nearly all participants who choose to replace their propane and/or wood-fired furnaces with electric space heating will qualify for all-electric baseline;[33] SCE will inform participants of

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[32] Estimated CARE penetration rates in SCE's pilot communities are as follows: 96% in Ducor, 100% in West Goshen and 90% in California City.

[33] One of the ways for SCE customers to qualify for All-Electric Baseline is for their main source of space heating to come from an electric heating source.

their eligibility for this higher baseline at the time of enrollment and offer to convert them to the higher baseline when installation of the appliances is completed.

- Medical Baseline**:** SCE will follow the same processes above to enroll customers, in the Medical Baseline program.
- DAC-Focused Green Energy Programs. SCE's proposal for enrollment in these programs is described in the dedicated section below, titled "DAC Green Energy Programs."

7. DAC-Focused Green Energy Programs

A key component of this electrification pilot is that SCE plans to help eligible customers access existing and upcoming green energy programs. These programs will provide eligible customers with two important benefits: first, significant bill savings that increase energy affordability; and second, newly-constructed clean energy that further improves the environmental benefits of this project.

The CPUC recently authorized a wide range of green energy programs, and SCE will work with participants and communities to identify the program(s) that best achieve their goals. Given the wide variety of programs, SCE will help participants a) determine which programs they qualify for, b) compare the benefits, drawbacks, and requirements of each program, then c) provide enrollment assistance into the program. SCE includes a partial list of programs later in this section.

SCE will inform pilot participants about various solar programs and tariff options that are available to participants individually or as a community through marketing and outreach efforts and through CBOs. SCE will communicate and work with program administrator(s) in promoting these program and tariff options.

SCE, as part of the outreach effort, will work directly with CBOs and program administrators to help identify and engage potential "sponsors" to participate in the DAC-Community Solar program. SCE and CBOs will educate potential sponsors on the program and actions required to be a participant. SCE and CBOs will also educate residential participants on how the DAC-Community Solar program works, benefits of being a participant and that a sponsor in the area will need to lead the

effort and reach out to customers to sign up. If a sponsor for community solar cannot be found, SCE believes the DAC-SASH and DAC-Green Rate programs may be useful for pilot participants in the smaller communities.

Several factors will affect both the number of participants who are eligible for each green energy program, as well as the timing for them to receive those benefits. First, all of these programs are only available to income-qualified customers[34]. Second, some programs may not be available at the time of this filing, but are anticipated to be available around the time of pilot launch.

SCE will promote the following green energy programs:

- DAC-Green Tariff: This tariff will be available to participants who live in the top 25% of DACs or the designated pilot communities and are enrolled in the California Alternative Rates for Energy (CARE) or Family Electric Rate Assistance (FERA) programs. The tariff provides a 20 percent bill discount compared to the otherwise applicable tariff for customers that subscribe to an IOU Power Purchase Agreement and subscribe to 100 percent renewable energy.
- DAC-SASH: This single family affordable solar homes program provides assistance for low income customers that lack the upfront capital to invest in the installation of solar on their own home. Per D.18-06-027 the program will operate from January 1, 2019 through December 31, 2030.
- DAC-Community Solar: This tariff will allow primarily low-income customers in DACs to benefit from the development of solar projects located in their own or nearby DAC. This program is distinct from the DAC-Green Tariff in that the solar project will have a project sponsorship and developer for the siting of the solar project in their community. Participants will also receive a 20 percent bill discount compared to the otherwise applicable tariff.

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[34] Customers must be enrolled in CARE or FERA and reside in the top 25% of DACs; all three pilot communities fall in to this category.

- Solar on Multifamily Affordable Housing (SOMAH)**:** This program will provide significant subsidies for the installation of solar photovoltaic (PV) energy generation systems sited on qualifying multifamily affordable housing properties.

SCE will educate the communities about opportunities to participate in other relevant solar programs and their eligibility requirements including the Self Generation Incentive Program (SGIP) that includes an equity budget for energy storage projects, dedicated for qualified, low-income applicants and in areas with poor air quality and the Community Services & Development (CSD) Low Income Weatherization Program.

In addition, as new solar programs become available during the implementation of this pilot, SCE will educate customers and facilitate enrollment in the solar options available to SJV customers and pilot participants as a cost-effective means to reduce barriers to and increase access to clean energy.

H. Implementation Considerations

1. Safety

SCE contractors will follow ESA Program California Installation Standards[35] and associated safety protocols, and will adhere to all applicable state and local safety procedures during the implementation of this pilot. As stated in the product offerings section, the pilot will upgrade electrical wiring and panels, install appliances and weatherization measures to accommodate the increase in load and improve the energy efficiency of the home resulting from adding electrical appliances. SCE contractors will also be expected to ensure any hazardous materials (asbestos, lead) uncovered during the installation of the appliance are handled and removed from the premise following all required safety procedures.

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[35] Richard Heath &Associates, Inc., *California Installation Standards, Energy Savings Assistance Program* (March, 2018).

2. Community Education and Outreach

SCE's electrification proposal relies on CBOs and ongoing engagement with pilot participants. SCE will begin the process with pre-pilot events to educate customers on TOU rates, electric appliance functionality and energy conservation. SCE's implementation plan includes pre-inspection of the home to confirm a customer's eligibility to participate in the pilot. During this phase, the contractor will confirm whether the customer is using propane and/or wood for heating and cooking, will gather annual total energy cost data and inform customers of their eligibility for enrollment in energy cost reducing programs. SCE or the contractor will provide enrollment assistance for these programs as identified during the pilot enrollment period. SCE will continue to engage pilot participants post-implementation by monitoring their energy bills and introducing them to new community solar and other electric utility programs as they become available in the pilot communities.

SCE will select pilot implementers through an RFP process and may include a member of a CBO. The education and outreach activity is divided into the three phases below:

Phase I: Community outreach to spread pilot awareness

During the initial outreach phase, SCE will educate customers on how to enroll in qualifying programs such as CARE and ESA as well as inform them about SCE's electrification pilot and its benefits, TOU rates, electrical appliances, how they function and their energy consumption. In addition, SCE will provide electric stovetop cooking demonstrations. These activities will increase customers' familiarity and comfort with the use of electric stovetops by providing demonstrations on how to use the cookware and how food may cook differently on an electric stove. At this time, SCE will also educate customers about electric appliance consumption and how to monitor and control the amount of energy they use.

Phase II: Qualifications, Information Gathering and Enrollment

A second outreach phase will occur during pilot implementation and will occur one-on-one with the customer, through events, direct mail and in-home visits. Homes will be inspected and customer eligibility will be confirmed during this phase. Individual customer bills will be analyzed, results shared with customers and customers will be enrolled in the pilot. Responsible energy

consumption will also be discussed and customers will be offered the option to convert to the all-electric rates and to enroll in the DACs-Green Tariff rate.

Contractor(s) will assist SCE with the implementation of this pilot by supporting the enrollment of eligible customers into the pilot and other respective qualifying programs. The enrollment process will follow existing ESA and other program eligibility and criteria as currently exists and where applicable. For pilot specific eligibility, SCE will establish criteria for eligibility and work with the assigned contractor(s) to qualify and enroll customers into the pilot.

Phase III: Customer Follow-up, Pilot Evaluation, and Continued Education

A final phase of engagement will take place post-implementation. SCE will examine participants' consumption and energy bills for one year after the electrical appliances have been installed to assess bill-related impacts. To the extent there are any increases in consumption, SCE will review [36] and work with the customer to suggest and implement actions to assist the customer in managing their energy costs. Although the specific data and approach to collecting the data will be determined by the evaluation consultant, as noted above, it is anticipated that 12 months of post pilot consumption data will be gathered and analyzed as part of the evaluation to assess fuel use and billing related outcomes. See also the section on Evaluation Plan below.

3. Process to Update Pilot Proposal Based on Actual Costs

SCE's proposal includes a review process to assess pilot costs after customer homes have been inspected and evaluated. This milestone will allow SCE to learn whether some of the initial assumptions regarding the conditions of the homes, and customer interest are as expected. A status report including these preliminary findings will be shared with the Pilot Team and the Commission to gauge potential budget and scope adjustments that may be warranted. SCE may file a Tier 2 advice letter at that time to adjust program scope and funding based on preliminary findings.

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[36] Energy increase actions may include review of appliance use, inspection of appliance performance, corrective action to resolve or improve appliance performance as identified, and a review of additional programs that the customer may not have opted to participate in.

4. SCE Requests Exceptions to Existing ESA Program Rules

SCE requests a one-time exception for pilot participants to the ESA Weatherization measure rules, which currently require the customer to be on an "All-Electric" rate to qualify for the measure. Due to timing of enrolling customers into the All-Electric rate, and the weatherization treatment, under the current rule, SCE's assigned contractor would have to install the electric space heating first, then enroll the customer into the All-Electric rate, then come back to perform weatherization treatment. Allowing the weatherization treatment prior to or in parallel with the appliance installation will help to reduce cost of the pilot and impact to the customer with a second visit to the home.

5. Hazardous Material Abatement and Removal

SCE anticipates that many homes in the pilot communities may have been built with hazardous materials such as lead and asbestos. SCE's budget includes funds to address code compliance with hazardous materials at the time of treatment, such as costs to support a contractor's safe working environment and removal of hazardous materials. The budget also includes testing and the proper treatment in home to safely install the electric appliances and the home weatherization and electric panel and wiring work. The pilot and hazardous materials removal is not designed to treat the entire home, but to ensure all necessary pilot work is performed safely and according to local building codes.

6. Contracting Process for Vendors/Implementers - RFP Process

SCE proposes to utilize an RFP process to competitively select equipment vendors and pilot implementers using a best cost/best fit approach. To ensure that all pilot-related activities including electric panel upgrade, weatherization measures and appliance installation are installed properly so that they produce the expected energy savings, SCE would work with qualified, licensed contractors who are appropriately skilled and experienced to perform work in these communities. Furthermore, SCE will require selected contractors to assume liability for proper installation of the equipment, electric panel upgrade, and the implementation of the weatherization measures.

Upon approval of SCE pilots, SCE will work on a detailed implementation plan including the RFP process, customer eligibility and enrollment process, contractor activity and timelines. SCE proposes the following Scope of Services for the RFP:

- Outreach:
    - SCE will engage with CBOs to develop and implement an effective outreach strategy. The goal of the outreach would be to reach all eligible customers, educate and inform customers of pilot purpose and benefits including specifics on eligibility, home treatment, appliances and timing.
- Inspections:
    - SCE's assigned home inspections contractor will perform an inspection of the dwelling to assess overall condition and whether the dwelling would qualify for the pilot. A dwelling with significant code violations for example might not qualify to participate in the pilot due to the cost to remediate and overall safety. SCE and its home inspection contractor will establish the qualification criteria prior to the launch of the pilot.
- Appliance Replacement:
    - The appliances in consideration for the pilot include a heat pump space heating and cooling ducted and ductless mini-split system, a heat pump water heater, an electric resistance water heater, glass cook-top electric stove, and an electric dryer. Appliance mix will be assessed as part of the home inspection process. Customers for example without proper site space to support a heat pump water heater will receive an electric resistance water heater.
- In-Home Upgrades:
    - Home upgrades will include as identified and required through the home inspection process, an electric panel upgrade including new panel and circuit breakers as well as wiring required to install the appliances. In addition, dwellings will be evaluated for overall envelop sealing, and treatment to resolve identified sealing issues will be administered through the basic and enhanced weatherization measures offered through the pilot.
- Workforce Development:

- To the extent practical and feasible, and without compromise to quality and safety, SCE will require vendors to propose a plan to incorporate workforce education and development as a standard or requirement in their statement of work (SOW), as described on page 42 Workforce Development.

7. Prioritization of Enrollment

SCE will give priority to CARE- and FERA-eligible customers in California City while targeting all customers in the communities of Ducor and West Goshen. Please see Attachments B, C, and D for detailed enrollment prioritization by community.

8. Grid Conditions and Project Feasibility

Separately in Attachments B, C, and D, SCE addresses community specific grid conditions and project feasibility.

9. Local Reliability and Storage

SCE is not proposing a residential solar and battery storage offering unique to the communities of San Joaquin Valley, but will actively promote solar and storage through the DAC-SASH and Self Generation Incentive programs to eligible customers**.**

SCE has not included budget for storage in this proposal, but may look to partner with a battery storage company and a community solar anchor tenant perhaps through the new DAC Community Solar Program to study the grid benefits of a combined solar and battery storage pilot. SCE would seek to fund such a study outside of this proposal.

10. Workforce Development & Training

SCE's goal is to work with local contractors and CBOs during the implementation of this pilot. SCE considers the opportunity to working with local community businesses and CBOs, which are invested in the pilot communities, as an important component of this effort. SCE will issue an RFP to contract with knowledgeable, local contractors (where available) who value local workforce development and community engagement for the jobs related to all phases of the proposed pilot. SCE, however, will not compromise the quality and safety aspects of the pilots.

To achieve these goals, SCE will leverage the RFP process to select partners where appropriate with business strategies that include hiring, developing and training local residents. In addition, the RFP will include requirements for the following certifications and workforces standards:

- General Contractor (GC) license, HVAC certified technicians and licensed plumbers;
- Years of experience to be commensurate with high performance requirements;
- Strong safety record;
- Strong customer satisfaction.

11. Tenant/Landlord

Although SCE's initial outreach will target the people living in the residence, or the account holders rather than the property owner/landlord, SCE understands the importance of engaging property owners of those residents who are living in rented dwellings because property owners may be the ultimate decision makers regarding modifications made to the properties. SCE's preliminary analysis included the metered accounts of all SCE customers within three pilot communities to ensure the savings benefits will be realized by the tenant and reflected in household's total energy bill.

CBOs familiar with local tenants and landlords will assist SCE in facilitating tenant/landlord participation. The CBO will also engage the property managers when necessary to ensure all parties are aware of the pilot, benefits and eligibility criteria.

Both tenants and property owners are likely to benefit with the former realizing a decrease in total energy costs and the latter receiving relevant property improvements. SCE's terms and conditions as part of the enrollment agreement that will reflect the need for both landlord and tenant engagement (mutual consent) and agreement (consent) to participate in the program. The terms, application and enrollment process will also include language restricting rent increases post property-related upgrades due to the pilot activities. Although research[37] on similar types of interventions that

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[37] The Cadmus Group Inc., *Energy Savings Assistance Program Multifamily Segment Study* (December 4, 2013), *available at* https://efiling.energy.ca.gov/GetDocument.aspx?tn=211054.

benefit both rental property owners and tenants have identified that it will be difficult to enforce restrictions on rent increases. SCE will examine these potential impacts on tenants of treated dwellings through the duration of the pilot. Likewise, as part of the evaluations market characterization, housing type and ownership[38] data will be collected from both participants and nonparticipants in these communities to understand how different pilot benefits are ultimately distributed.

SCE's Multifamily Energy Efficiency Rebate Program has not included levers for controlling rent increases and have also recognized property owners may elect to increase rents based on market forces.

I. Eligibility Criteria for Pilot Participation

SCE addresses the pilot eligibility criteria by community in Attachments B, C, and D.

J. Pilot Evaluation Plan

1. Context of the pilot evaluation

As part of the pilot implementation in the three pilot communities, SCE will gather data and examine the impacts of the interventions.

The pilot evaluation will focus on collecting and examining overall market data (including participants and non-participants) as well as specific bill, behavior, and non-energy impacts pilot participants within California City, Ducor and West Goshen receive as part of this pilot. Although in the original data gathering proposal,[39] SCE suggested specific pilot evaluation data would be collected in conjunction with collecting data on the wider group of the DACs in the SJV, the recent Decision (D.) 18-08-019 differentiated these activities in accord with PG&E's proposed plan. D.18-08-019 highlighted that the pilots for the twelve host communities will be approved in a subsequent decision, and as such "to avoid confusion, specific pilot project data will be integrated into the (statewide) data collection process to the extent feasible"[40].

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[38] Differentiate between subsidized/Section 8 and market rate rentals as there are different rules.

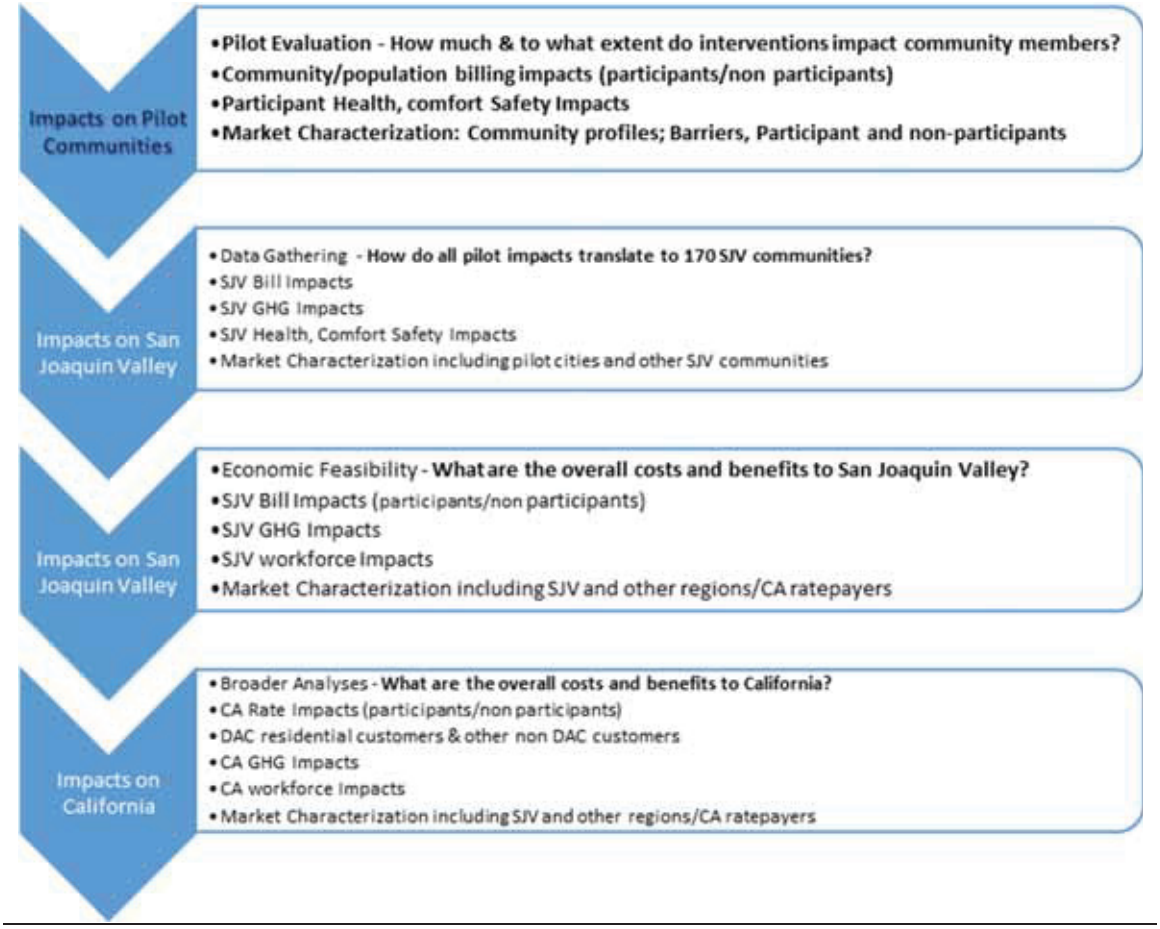
[39] SCE's Proposed Data Gathering Plan (February 28, 2018)

[40] D.18-08-019, at pp. 15-16.

Hence, the pilot evaluation plan included in this proposal will support, but is differentiated from the Data Gathering Plan, see Figure I-2 below, designated to collect information needed to establish baseline conditions in ALL of the San Joaquin Valley DACs. Both efforts are expected to support a subsequent economic feasibility study to be conducted during Phase III of this proceeding and independent of a larger examination of the regional and state impacts.

Figure I-2

Pilot Impact on Residential Customers



2. Pilot Evaluation Objectives, Research Questions, and Reporting Metrics

As noted in the figure above, the pilot evaluation specifically examines the overall impact and effectiveness of the interventions provided by SCE in the three pilot communities. The pilot evaluation will provide more nuanced data and analyses and serve several purposes. First, it will collect pre-treatment data on usage, current conditions, attitudes, and relevant community/market data. In

addition it will collect and analyze post intervention billing, usage and demographic data, including cite-specific assessments and results based on the interventions. In this sense, it will assess the actual savings and impacts as opposed to the projections based on pre-existing data, and analyses conducted and included as part of this filing. In addition, it will help SCE understand to what extent the treatment impacted health, comfort, and safety. Finally, the evaluation will provide more in-depth data of these specific communities that may inform the broader scalability questions and the forthcoming data gathering and economic feasibility analysis activities.

During the course of the pilot implementation, SCE will gather data to understand the success of the interventions based on (1) the magnitude of impact on the community as a whole (e.g., market characterization or examination of both participants AND non-participants) and (2) the impacts on the participants (e.g., pre and post intervention).

As per Table I-7 below, the work scope and objectives of the evaluation align the overall goals of SCE's pilot.

The pilot evaluation will not examine trade-off analysis with natural gas or other options, workforce analysis, applicability, scalability and relative cost impacts to the larger SJV/DACs or California as a whole as these elements are part of Phase III of this proceeding.

Table I-7

SCE's SJV/DAC Pilot Evaluation Framework

Pilot Goal	Evaluation Objective	Possible Research Questions[41]	Metric
1. Provide meaningful health, comfort and safety (HCS) benefits to the participants and the community	1.1 Identify relative HCS impacts of electrification interventions in 3 Pilot Cities	a) How much of the community benefits? b) What are the impacts for the community? c) What are the impacts health, comfort & safety impacts resulting from the interventions? d) What interventions result in greatest impacts and why? e) What interventions are preferred by residents and why? f) How are participants different than non-participants? g) What are barriers to participation?	• # and % of participation vs non participation • #/% served + benefits • #/% not served + characterization • Participant Health: improvements/deteriorations (e.g., resulting from change in air quality, etc.) • Participant Comfort/Convenience: (resulting from change in air temperature, etc.) • Participant Safety: threats mitigated/exacerbated (e.g., resulting from change in fire hazards, faulty circuits etc.)
2. Reduce overall household energy burden	2.1 Identify relative cost impacts of electrification interventions for participants	a) Does usage increase/decrease, shift? b) How are participant fuel costs affected by interventions? c) Do treated customers pay more or less (all combined fuel)? d) How much, and which customers show increases or decreases in burden (as traditionally measured – HH income/total energy bills)? e) How is household hardship impacted (e.g., consider other ways to measure burden)? f) How are customer needs associated with overall energy affordability, predictability, and stability? g) How do customers prioritize these needs? h) How do these vary across different segments (e.g., based on housing type, HH size, other demographics, etc.)? i) Are certain interventions more/less effective in mitigating burden?	• Pre & post bill increases/decreases per HH • Pre & Post comparison between treated and not treated • Pre & Post subpopulation analysis • Magnitude of bill increases/decreases within and across community

[41] These questions represent potential questions that may be addressed in the evaluation. Every question may not be addressed as the final scope of work and research plan will prioritize questions as they align with overall objectives, timeline and budget.

		j) What are benefits and barriers to different types of stakeholders (e.g., property owners vs. landlords/owners vs renters)?	
3. Provide meaningful community/state benefits: • GHG reductions • Local Workforce	3.1 Identify relative air quality impacts of electrification interventions 3.2 Identify impacts to local workforce	a) Do interventions reduce GHG in community? b) To what extent were reductions in criteria pollutants (including particulates) were achieved? c) To what extent was local workforce utilized? d) What are benefits and barriers associated with local hiring? e) What are the participants and non-participants preferences/attitudes towards local hiring? f) What are best practices for staffing for implementation?	• Quantified reduction in GHG emissions • Magnitude of reduction in GHG emissions • Magnitude of indoor air quality impact(+/-) ✓ At HH treated level ✓ At community level

4. Collect market data to support larger economic feasibility analysis	4.1 Provide descriptive & quantitative data on the communities	a) What can we learn via these "cases studies" that can be applied to broader analytical needs? b) What are the demographics of the communities (e.g., housing type, size of HH, mobility, etc.)? c) How might different demos influence scalability? d) How do the costs and benefits differentially impact subgroups (e.g., tenants, landlords, SF, MH, MF, subsidized vs non-subsidized, etc.). e) What attitudes and behaviors of different subgroups may impact scalability? (e.g., regarding costs, disruptions, fuel, fuel use, etc.) f) How do community political and cultural influences impact interests, costs and scalability? g) What are undesirable/negative post-implementation impacts (e.g., rent increases; higher energy bills, increased community conflict, reduced reliability, etc.)? h) What factors/conditions are necessary for participation? How does this impact scalability? i) What is the impact of different interventions on different types of customers? j) What outreach practices are most effective for the pilot communities and why?	• Participation / Non participation rates • Community-wide demographics • # and magnitude of barriers to participation • Benefits and consequences of participation • Attitudes and satisfaction with participation

Although important, it may be difficult to pre-determine specific thresholds for determining "success" given the lack of existing baseline information and market references for what are reasonable expected outcomes for the interventions offered via this pilot. Hence, the pilots will be used to collect and examine specific information and data associated with the pilot implementation as well as identify the magnitude of barriers that may be associated with more wide-spread implementation. These data may be used to identify potential success metrics in a subsequent phase of the proceeding such as during the economic feasibility analysis.

Ideally, the evaluation may utilize multiple primary and secondary data sources including qualitative and quantitative data from participants and non-participants, billing and usage data, demographic data, and include a randomized control trial to understand the 'effectiveness' relative to no, or different interventions. Some potential methods to collect these data are described in 7 below. However, given the parameters, scope and budget allocated, the final evaluation methodology, plan and design are expected to be proposed by the independent consultant to ensure the right data are collected to address the objectives. Likewise, it is expected the consultant will provide insights and recommendations regarding what may be reasonable criteria for "success" based on what is learned. This type of information may become part of the larger economic feasibility analysis. For example, if 'x' interventions with 'y' conditions lead to 98% of participants reporting minor health benefits; and 'p' interventions with 'q' conditions result in 20% indicated major/significant health benefits, the Commission may determine 'x' interventions at 'z' costs are superior to 'p' interventions at 's' costs. The pilot evaluation will be expected to include some data and analysis of both the participant and non-participant population (e.g., willing and feasible) to gauge impact on the overall community.

Table I-8

Examples of Potential Data Sources and Approach

Potential data sources/Approach

- Pilot solicitation data (parts/non parts)
  - Household demographics
  - Appliance & home structure
  - Inclusion/exclusion criteria
- Participant & non participant surveys (including homeowners, rental prop owners, tenants, etc.)
  - Behaviors
  - Attitudes and Barriers
  - Preferences
  - Demographics
- Focus groups/Interviews (participants only)
- Secondary data sources
  - Census/National data
  - Older data sources (e.g., RASS)
  - Community demographics
- Meter data: Load Impact Analysis (assess changes in electricity consumption controlling for weather and other relevant factors).
- Billing data: Billing analysis (documentation of total participant household annual fuel costs pre and post treatment (electricity, gas, wood, propane, oil bills – one year actual bills
- Survey data: self-report bill costs and appliance and equipment use
- Analysis of participants relative to other sources (e.g., RASS)
- Survey data: subjective assessment of changes in air quality, behavior/household changes associated with specific wood and propane use; pre/post treatment/control;
- On-site data: assessment of existing equipment & loggers/meters

3. Pilot Evaluation tasks

Upon Commission approval, SCE will develop a detailed scope of work for the pilot evaluation that identifies the objectives and potential data collection and analysis needs. SCE will contract with a third-party evaluation consultant to design and implement the evaluation based on the parameters outlined in the scope of work. Although more details and the specific analytical plan will be informed by the evaluation consultant and initial learnings about the communities, the following potential tasks may be included in the scope of the pilot evaluation:

1. Draft an RFP and solicit a 3rd party evaluator
2. Finalize a research plan
3. Collect, clean and process data
    - Pre/Ongoing Implementation data
4. Post-Implementation data
5. Data analysis and reporting
    - Characterize the market (pilot community participants and non-participants)
    - Identify benefits and barriers to participation
6. Discussion of bias, reliability and validity of findings
7. Conclusions
8. Recommendations regarding key data needs, sources and viability for consideration in the economic feasibility assessment.

To optimize data collection during the implementation and subsequent analysis, SCE will commence writing the RFP for the evaluation upon approval of the pilot. SCE anticipates the evaluation consultant will work with the implementation team to ensure the data necessary for the evaluation are collected as part of the pilot implementation process.

Initial analyses and information gathered in informal community groups suggests that there are differences among the communities in terms of the number and percentage of customers who are going to be interested in participating in the pilot. Among those, some of the properties will not meet initial eligibility criteria (due to safety and structural standards, or code violations, owner agreement, etc.). Among those that are willing and meeting the initial criteria, some of the properties will require upgrades that are beyond the scope of the project/budget, making them not feasible to include. As part of the pilot implementation process, SCE will collect relevant information at each of these junctures of inclusion and exclusion to assist in the evaluation of these pilots. This will provide an overall profile of the nature and magnitude of program participants within each of the communities. Although the final report will be expected to provide both case study (per city) and aggregate (combined population)

results, the report will likely include some useful data but no analyses or broader examination of economic feasibility and scalability is expected via the pilot evaluation.

4. Requested Budget

SCE's estimated budget of $500,000 is to cover anticipated evaluation costs as expected to be included in scope of work outlined in the request for proposals. Details of the budget breakdown are typically provided in the final proposal of the third party evaluation consultant who will conduct the work.

K. Risk Mitigation Plan

1. Higher-than-forecasted participation

SCE's budget assumes 100% of eligible participants in Ducor and West Goshen and up to 500 participants in California City will participate in this pilot and will elect to receive the electrical appliances. The goals of this pilot are reduced energy bills, increased energy-related health, comfort, and safety. Should more participants than anticipated express an interest in participating in the pilot, SCE would inform the Energy Division through the proposed regular updates and will file an Advice Letter as appropriate to modify its pilot to accommodate the increased customer interest. While SCE has included a 20% contingency in its budget, SCE cannot depend on this contingency budget to fund pilot costs for customers above the projected participation count. Instead, SCE would request approval for an increase in funds to ensure all interested participants are able to experience the benefits of clean energy, through an appropriate regulatory filing.

2. TOU Transition and Impact of Energy Costs without Enrollment in Available Programs

SCE analyzed multiple consumption and rate structure scenarios for customers in the three pilot communities. The worst case scenario occurs for high consumption pilot participants in West Goshen who reside in mobile homes on the TOU 4 – 9 rate structure who elect not to convert to the all-electric baseline and opt not to enroll in the 20% DAC Green Tariff. These households will experience a monthly increase of $118.45. Multifamily, mobile homes and CARE households may also experience increases, albeit significantly less ($2.14 to $5.44 per month). SCE will offer all pilot participants the option to convert to the all-electric baseline and assist with enrollment in the DAC – Green Rate program to ensure customers' energy costs do not increase above their combined energy cost before participating in this pilot. SCE's transition to the TOU rate structure is optional until 2020 and CARE

customers in hot zones will likely not be defaulted to TOU rates;[42] therefore, this outcome is highly unlikely.

In general, the transition to TOU pricing does not in itself negatively impact affordability. If a customer should transition to TOU pricing without enrolling into available incentive/subsidy programs such as the All-Electric Rate and DAC Green Tariff Rates, they could see a negative (higher) overall energy bill. SCE's analysis (see Appendix C) looked at energy cost impacts for Tiered, TOU 4-9, TOU Prime rates as well as All-Electric and DAC Green Tariff subsidies for qualified customers to assess impacts to customers energy costs comparing pre-pilot and post pilot home energy costs.

3. Affordability for All Participants

3.1 Monthly Bills

SCE conducted additional pre- and post-pilot energy analysis after submitting its January 31 pilot proposal. The analysis segmented the pilot community customers into medium, low and high users and included the less efficient electric storage water heater installation in multifamily and mobile homes to address physical site restrictions that may prevent the installation of the recommended heat pump water heater appliance for this pilot. In all cases, only high consumption customers in multifamily and mobile home households on TOU 4 – 9 rate structures are expected to see an increase in their monthly energy costs. CARE customers in hot zones will not be defaulted to TOU rates. Most of the

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[42] In D.17-09-036 at p. 17, the Commission determined that the Opt-in TOU Pilot results provided insufficient evidence to conclude that economically vulnerable customers in hot climate zones do not experience unreasonable economic and/or health and safety hardship due to TOU rates.[29] Therefore, to ensure that these customers do not experience unreasonable hardship on default TOU rates, the Commission ordered that CARE and FERA eligible customers in hot baseline regions be excluded from the IOUs' Default TOU Pilots.[30] The Commission further determined that absent good cause for change, these customers will also be excluded from default TOU rates. Accordingly, SCE plans to exclude CARE/FERA-eligible customers in baseline regions 10, 13, 14, and 15 from default TOU during the IDTM (initial default TOU migration) period. Upon turn-on or transfer of service, customers who are currently CARE/FERA, or who self-identify as CARE/FERA eligible, will be placed on the tiered rate if a TOU rate is not selected by the customer. As discussed further in Chapter VI, SCE will continue to monitor results from the Opt-in and Default TOU Pilots and will advise the Commission of any additional evidence that may present good cause for revisiting this determination.

households expected to participate in the pilot are CARE households and are not expected to see an increase in their monthly bills.

SCE's post-pilot energy analysis shows significant savings for pilot households. SCE has taken care to account for increases in consumption during the summer months to account for increased usage of the cooling function in the heat pump heating and cooling appliance. If customers enroll in the credit programs available to them and use energy as predicted and modeled, they should continue to realize energy savings similar to what SCE has estimated.

3.2 Appliance Warranties

All appliances will have the standard one-year manufacturer's warranty, however SCE will request appliance bidders to provide an additional year warranty to cover the appliance for the duration of the pilot. Should the appliance fail during the warranty period, it is expected that the manufacturer will repair or replace the appliance free of charge to the customer. Should the appliance fail after the warranty period has passed, similar to other product warranties, the customer will be responsible for repairs.

SCE will include language in its SOW requiring installers to warranty the appliance installation labor for the two-year duration of the pilot.

4. Increased Energy Usage

SCE plans to use outreach activities to educate customers about the energy consumption of their electrical appliance, and to encourage conservation to help manage costs. SCE will utilize its pilot implementer strategy referenced above to discuss energy conservation and will walk the customers through proper use and ways to save energy including leave-behind in-language materials. Lastly, the pilot implementer will perform a customized energy analysis during the enrollment period. The tool used for the customized analysis will allow variations in the appliance consumption to show participating households how increases in consumption will impact their energy bills. Timeline & Reporting

5. Timeline

Table I-9 below shows a preliminary project timeline for pilot implementation. This document is meant to show the scope and sequencing of the various tasks throughout the pilot lifecycle. The timeline is divided into three phases that are more-or-less sequential: pilot planning activities, pilot implementation, and pilot evaluation. While most of the planning activities conclude before pilot implementation begins, the implementation and evaluation phases may overlap as SCE gathers the data required to evaluate the three pilot communities assigned to SCE.

SCE will continue to refine the timeline as it prepares to implement the pilot upon Commission approval. If SCE has approval to proceed in early Q1 of 2019, SCE anticipates beginning in-home survey and enrolling pilot participants in late Q2 of 2019.

Table I-9

Project Timeline

Stage	*Task*	*Sub-Task*	*Deliverables/Milestones*	*Time*
Pilot Planning	Pilot Design & Implementation Plan Development	Pre-pilot analysis and preliminary scoping	Provide input to pilot design & development of Track A deliverables	Ongoing (from the Scoping Memo through pilot approval)
		Pilot team meetings	Provide input to pilot design & development of Track A deliverables	
	Initial Data Collection	Collect and analyze IOU and other readily available data on target households within pilot communities	Provide input to refine pilot design & implementation	
	Community Outreach and Education	Develop joint stakeholder community engagement and education plan	Complete community outreach and education plan	
		Conduct "Energy Option Workshops" and other community engagement activities	Provide input to pilot design & implementation	
	Subcontractor Procurement - Planning	Conduct request for proposal (RFP) for Pilot community outreach and education partners, if applicable	Contract(s) with community outreach and education partner(s)	
	Additional Data Collection	Collect and analyze additional data not readily available from IOU or other existing community resources	Provide input to refine pilot design & implementation	
	Pilot Refinement	Refine pilot design and implementation plan	Final pilot design and implementation	
	Regulatory Administrative Work	Multiple (outlined in "Phase II - Track A - Pilot Projects" events timeline as outlined in p.13-14 of the 12/6/17 Scoping Memo)	CPUC proposed deliverables and schedule compliance	
CPUC Milestone - Pilot Approval (expected January, 2019)				
Pilot Implementation	Scope/Data Verification	Verify household scoping and measure identification for accuracy and pilot budget alignment	Ensures alignment to Commission approved pilot	Pilot years 1 and 2 (after Commission approval)
	Subcontractor Procurement - Implementation	Conduct RFP for Pilot 3rd Party vendors, contractors, and other implementation partners	Contract(s) with program implementation partner(s)	
	Community Engagement & Program Enrollment	Marketing education & outreach implementation	Formal announcement of pilot implementation - marketing, outreach and education to build participant pipeline	
		Open program enrollment	Enroll eligible households from participant pipeline	
	Permitting & Installation	Third party implementers will meet or exceed all applicable building and safety code compliance, and pull all necessary permits to complete implementation	Code compliance	
		Third party implementers will install scoped measures as approved in the pilots	Measure installation, commissioning and startup	
	Customer Education	CBOs and IOU resources will conduct in-depth customer education and training on new measures and electrification upgrades	Customer education and training on new technologies and energy use behaviors	
	Monitoring & Analysis	Monitor near- and long-term performance of installed measures, customer satisfaction, and behavior	Informs EM&V plan	
Pilot Evaluation	Post-Implementation Data Collection & Analysis	Develop pilot EM&V plan in coordination with IOUs and other key stakeholders	Completed EM&V plan	Pilot year 3
		Collect data and conduct analysis according to EM&V plan	Provides results and analysis of pilot outcomes and key learnings	
	Reporting	Periodically report on pilot implementation and post-implementation progress	Keeps key stakeholders informed of pilot implementation, achievement of success metrics, and key learnings to inform Phase III	

6. Reporting

SCE will identify metrics that track quantitative and qualitative project status.[43] These metrics could provide insight on the status of pilot rollout and the effectiveness of community engagement. Metrics for pilot status could include customer participation rates, non-participation rates, barriers to participation, types of treatments applied, percentage of participants rejecting at least one treatment, etc. SCE may identify additional metrics that support SCE's pilot evaluation plan. Metrics for effectiveness of community engagement could include the number of meetings held and a summary of outcomes.

These quarterly reports will be compiled into a final report, which may contain further analysis if merited.

L. Budget & Funding Source

1. Expected Costs

SCE's pilot is expected to cost a total of $30.8 million, which is a forecasted decrease of $6.8 million from the budget included in SCE's January 31, 2018 filing. SCE's new pilot budget includes a 15% general administration budget of $4 million, which includes $2.5 million for customer outreach and training and $500,000 for an Evaluation, Measurement, and Verification (EM&V) study of SCE's three pilot communities. While the 15% general administration budget is higher than the standard 10% for Energy Efficiency (EE) Program budgets, the complexity of these pilots is significantly higher than existing EE Programs. Alternatively, SCE compared this pilot, and general administration costs, to GRID Alternative's Single Family Affordable Solar Housing (SASH) Program, a program with a similar complexity level. The Commission approved a 15% general administration budget for SASH due to its early stage of adoption and complexity in penetrating low income communities.[44] SCE's electrification pilot proposed in the SJV is also in its early stage of adoption. SCE

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[43] *See* Scoping Memorandum at p.6 (December 6, 2017).

[44] The Commission directed 85% of the total funding to be used for incentives, with the remaining 15% as follows: 10% of funding be allocated toward administration, 4% for marketing and 1% toward evaluation

also compared its pilot budget with those of PG&E, GRID and SoCalGas, all of whom thought it reasonable to assume general administration would need to be higher for this pilot than for established programs. The budget includes $18.5 million for behind-the-meter work (weatherization measures, appliance purchase, installation and removal costs, additional wiring and panel upgrades and cookware for electric stovetops) and $1.9 million for direct implementation (contractor costs and project management office support). The remaining $6.4 million includes $4.6 million for contingency, $1 million for the data gathering plan and $0.8 million for the grid-responsive heat pump water heater study and home audits and inspections. The contingency fund is 20% of all project costs. SCE believes the variability of unknown circumstances of participants' dwellings and the need to outsource the implementation work to possibly more than one vendor may present unique challenges. As such, SCE proposes a higher level of contingency funding to mitigate participant and implementer risks and ensure the success of pilot results that may otherwise be lost due to a budget cap. shows how the $18.5 million is allocated on behind the meter work a per-household basis. provides line item details for the entire pilot budget and funding from existing programs.

To estimate costs, SCE separated program costs into two categories: 1) appliance purchase, installation, removal and equipment and 2) weatherization, safety, and wiring. The "appliance purchase, installation, removal and equipment" category includes the cost of the appliance, wiring to support the new appliance load draw associated with the new appliances, labor costs for those activities and cookware required for electric stovetops. The "weatherization, safety, wiring" category includes weatherization measures offered by the existing ESA program for low income customers, additional measures not included in the ESA program (replacement of broken windows, minor patchwork of holes, etc..) and electric panel and conduit upgrades needed to ensure safe operation of the electric appliances

SCE's cost categories do not include the costs for major repairs to bring substandard dwellings up to full code compliance should doing so exceed the $21,259 average individual project cap,

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(15% administration, EM&V and ME&O costs). *See* D.15-01-027 at pp. 44-45 citing D. 07-11-045 at p. 20. Years later, once the program scaled and many of the early learning lessons were resolved, the legislature reduced the general administration budget to 10%. *See* AB 217 (Bradford 2013).

or be unrelated to the pilot objectives. Examples would include, but are not limited to, major structural replacements of roofs or rebuilding the general foundation of the dwelling that goes beyond basic weatherization and the need to remedy customer access to affordable and clean sources of energy. Furthermore, this budget excludes the cost of any existing programs or tariffs for which the customer might qualify (e.g., all-electric baseline, ESA, or other energy efficiency measures).

The actual costs and scope of work can vary significantly for each individual household, so the figures below estimate the average per-household expenditures in each category across all households. While SCE has tried to further refine its pilot cost estimates, actual costs will vary based on a range of factors such the age of the dwelling, structural integrity and existing efficiency measures. The total project budget is affected, and will be determined, by the number of customers that participate in the pilot project. SCE plans to monitor pilot participation rates to determine how customer counts track with the number of customers (860) on which the budget is based. SCE will assess pilot costs at the 6-month mark or after implementation of 100 customers to determine if the customer participation rate exceeds the forecast for the number of customers expected to be treated by the pilot. SCE will decide at that time if adjustments to funds are needed to serve additional customers and will request additional funds through an appropriate regulatory filing. SCE will use procurement best practices to ensure competitive pricing on appliances including volume discounts, and labor.

Table I-10

Behind the Meter per Household Cost

Cost Category	Cost per Household	% of Cost
Appliance Purchase, Installation & Hazardous Waste Removal	$14,856	69.01%
Weatherization, Safety & Wiring	$6,673	30.99%
Total	$21,529	100%

Table I-11

Total Pilot Budget

	SJV Pilot Costs	Potential Funding Program Sources	Program	Rate Payer Funded SJV Budget
General Admin	$ 1,500,000			$ 1,500,000
Direct Implementation	$ 1,920,324			$ 1,920,324
Marketing & EM&V				
Customer Outreach & Education	$ 2,000,000			$ 2,000,000
EM&V Pilot Planning & Study	$ 500,000			$ 500,000
Total Marketing & EM&V	**$ 2,500,000**			$ 2,500,000
Pilot Implementation Costs				
Appliance Replacement	$ 12,777,348			$ 12,777,348
Electrical Upgrade	$ 3,896,462			$ 3,896,462
Weatherization	$ 1,842,495	$ 1,412,467	ESA	$ 430,028
Home Audits & Inspections	$ 408,526			$ 408,526
Grid Responsive Water Heater study	$ 377,331	$ 377,331	ETP, EM&TP	$ -
Total Pilot Implementation Costs	**$ 19,302,161**			$ 17,512,363
IOU Data Gathering Plan - SCE Share	$ 1,000,000			$ 1,000,000
20% Contingency	$ 4,560,432			$ 4,560,432
Total Budget	**$ 30,782,918**	**$ 1,789,798**		**$ 28,993,120**

2. Cost Cap

Cost containment is an important design component of SCE's pilot. SCE proposes an average behind the meter cap per household of $21,529. Additionally, incorporating total pilot costs results in different total cost per household on a community basis. The total household cap includes other costs such as administrative, data gathering plan costs and marketing and outreach costs and are allocated to each community mostly by the number of expected participating customers. SCE proposes a total household cap of $34,860 for California City; $37,780 for Ducor; and $36,589 for West Goshen. The cap on household expenditures is important to ensure that project budget is spent cost effectively and that investments are equitable among community residents.

SCE requests flexibility in per household spend to perform services that result in expected outcomes with customer equity in mind, while at the same time not exceeding total program expenditures. SCE anticipates that some customers' homes may need more work, resulting in more cost as opposed to others. Using sound judgement and by establishing program home treatment criteria to manage by, SCE will work with its assigned contractors to take appropriate actions as necessary. SCE's agreement with selected partners will include direction on how to proceed with treating those homes that require more work than planned for in SCE's proposal.

3. Community Level Cost Cap - Allocation of Underspent Funds

SCE believes the pilot funds should be spent equitably among community residents and pilot participants. Therefore SCE would consider re-allocating unspent funds from households that do not use the entire $21.5k to fund additional pilot participants above the project participation rate. Any unused leftover funds would be returned to customers through the appropriate regulatory process.

II.

APPENDIX 1: CALCULATIONS

A. Scenario Analysis

1. Description of Calculation Methodology and Scenario Analysis

As described in Section 2.4, SCE refined its analysis to include all customers with twelve months of energy consumption data in each of the three communities, a propane cost per gallon of $3.50[45], multiple rate structures and an increase in consumption for the Heat Pump Heating and Cooling split system appliance above the expected annual consumption in the Residential Appliance Saturation Study (RASS), the source used for the energy analysis in the January 31st pilot. The decision to increase the annual consumption of this appliance was made because the small number of customers with this type of heating and cooling system in RASS is small (2% penetration). Instead, SCE combined the individual consumption values for electrical central air conditioning and electric space heating in Forecast Zone 7 to arrive at a more realistic annual consumption number for the heating and cooling appliance. In addition, SCE compared actual 2017 customer consumption data in the summer months to consumption in the winter months for customers in the pilot communities. The results showed an increase in consumption of approximately 30% in the summer months. SCE has assumed this increase is due to the increase in usage of air conditioning units (window and/or central) and has further increased annual consumption for the Heat Pump Heating and Cooling unit in the energy analysis by 30%. Lastly, the dataset was increased to 4,379 which includes all customers with 12-month consumption in the three communities.

Using the revised consumption information and increased data set, SCE analyzed multiple post-pilot energy cost scenarios to determine which scenario led to an increase in post-pilot energy costs over pre-pilot total energy costs. SCE calculated post-pilot energy costs using tiered rates from actual customer data, TOU 4 to 9 and TOU Prime rates. SCE also divided customers into low,

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[45] In conjunction with SCE, PG&E, and the Pilot Team, the average cost of propane was estimated based on feedback received from community residents during the May and June SJV Community Workshops.

medium and high usage customers to determine how consumption impacts the savings calculations. The analysis estimates savings for each consumption type with low consuming customers expecting to see the greatest savings. An increase in post-pilot costs occurs for customers residing in multifamily and/or mobile home units where the water heater is replaced with an electric storage water heater rather than a heat pump water heater because of physical site restrictions and customers elect not to convert to the all-electric rate which provides a higher consumption baseline as compared to the tiered rate baseline.

The tables below provide a summary of each scenario.

While most customers will be defaulted to TOU rates beginning in 2020, CARE and FERA customers in climate hot zones will not be automatically defaulted to TOU rates. The pilot communities fall within Heat Zones 8 ad 9 which are considered hot climate zones.[46]

[46] *See* fn. 44.

Table II-12

Expected Post Pilot Energy Costs – Median Consumption, All Available Credits

Estimated Customer Bill Impacts - All Communities, Median Consumption and Tiered Rates

Community	Dwelling Type	CARE?	Household Energy Costs Pre-Pilot			Household Energy Costs Post-Pilot						
			Electric	Propane	Total Pre Pilot Bill	Electric	All Elec Baseline Credit	Total Post-Credits	DAC-GT Discount	Total Post Pilot Bill	% Bill Change	Energy Savings per month
California City	Single Family	No	$1,246.61	$1,684.64	$2,931.25	$1,847.27	$249.48	$1,597.79	$0.00	$1,597.79	-45.5%	$111.12
	Multifamily	No	$699.05	$1,168.93	$1,867.98	$1,306.80	$249.48	$1,057.32	$0.00	$1,057.32	-43.4%	$67.56
	Mobile Homes	No	$606.56	$1,474.54	$2,081.10	$1,362.50	$249.48	$1,113.02	$0.00	$1,113.02	-46.5%	$80.67
	All	Yes	$903.50	$1,684.64	$2,588.14	$1,383.72	$249.48	$1,134.24	$226.85	$907.40	-64.9%	$140.06
Ducor	Single Family	No	$1,075.06	$1,684.64	$2,759.70	$1,666.75	$344.25	$1,322.50	$264.50	$1,058.00	-61.7%	$141.81
	Multifamily	No	N/A	N/A	N/A	N/A	$344.25	N/A	N/A	N/A	N/A	N/A
	Mobile Homes	No	$1,116.65	$1,474.54	$2,591.18	$1,861.29	$344.25	$1,517.04	$303.41	$1,213.63	-53.2%	$114.80
	All	Yes	$1,001.66	$1,684.64	$2,686.30	$1,491.81	$344.25	$1,147.56	$229.51	$918.05	-65.8%	$147.35
West Goshen	Single Family	No	$1,029.68	$1,684.64	$2,714.32	$1,576.72	$344.25	$1,232.47	$246.49	$985.98	-63.7%	$144.03
	Multifamily	No	$880.91	$1,168.93	$2,049.84	$1,434.42	$344.25	$1,090.17	$218.03	$872.13	-57.5%	$98.14
	Mobile Homes	No	$808.48	$1,474.54	$2,283.02	$1,496.95	$344.25	$1,152.70	$230.54	$922.16	-59.6%	$113.41
	All	Yes	$975.97	$1,684.64	$2,660.61	$1,462.75	$344.25	$1,118.50	$223.70	$894.80	-66.4%	$147.15

Estimated Customer Bill Impacts - All Communities, Median Consumption and TOU 4 to 9 Rates

Community	Dwelling Type	CARE?	Household Energy Costs Pre-Pilot			Household Energy Costs Post-Pilot						
			Electric	Propane	Total Pre Pilot Bill	Electric	All Elec Baseline Credit	TOU 4 to 9 Credit	Total Post-Credits	DAC-GT Discount	Total Post Pilot Bill	% Bill Change	Energy Savings per month
California City	Single Family	No	$1,246.61	$1,684.64	$2,931.25	$3,025.80	$249.48	$613.33	$2,162.99	$0.00	$2,162.99	-26.2%	$64.02
	Multifamily	No	$699.05	$1,168.93	$1,867.98	$2,421.76	$249.48	$613.33	$1,558.95	$0.00	$1,558.95	-16.5%	$25.75
	Mobile Homes	No	$606.56	$1,474.54	$2,081.10	$2,647.53	$249.48	$613.33	$1,784.72	$0.00	$1,784.72	-14.2%	$24.70
	All	Yes	$903.50	$1,684.64	$2,588.14	$2,830.58	$249.48	$613.33	$1,967.77	$393.55	$1,574.21	-39.2%	$84.49
Ducor	Single Family	No	$1,075.06	$1,684.64	$2,759.70	$3,027.38	$344.25	$741.99	$1,941.14	$0.00	$1,941.14	-29.7%	$68.21
	Multifamily	No	N/A	N/A	N/A	N/A	$344.25	$741.99	N/A	N/A	N/A	N/A	N/A
	Mobile Homes	No	$1,116.65	$1,474.54	$2,591.18	$3,329.94	$344.25	$741.99	$2,243.70	$0.00	$2,243.70	-13.4%	$28.96
	All	Yes	$1,001.66	$1,684.64	$2,686.30	$2,917.70	$344.25	$741.99	$1,831.46	$366.29	$1,465.17	-45.5%	$101.76
West Goshen	Single Family	No	$1,029.68	$1,684.64	$2,714.32	$2,867.85	$344.25	$741.99	$1,781.61	$0.00	$1,781.61	-34.4%	$77.73
	Multifamily	No	$880.91	$1,168.93	$2,049.84	$2,668.08	$344.25	$741.99	$1,581.84	$0.00	$1,581.84	-22.8%	$39.00
	Mobile Homes	No	$808.48	$1,474.54	$2,283.02	$2,944.34	$344.25	$741.99	$1,858.10	$0.00	$1,858.10	-18.6%	$35.41
	All	Yes	$975.97	$1,684.64	$2,660.61	$2,942.29	$344.25	$741.99	$1,856.05	$371.21	$1,484.84	-44.2%	$97.98

Estimated Customer Bill Impacts - All Communities, Median Consumption and TOU Prime Rates

Community	Dwelling Type	CARE?	Household Energy Costs Pre-Pilot			Household Energy Costs Post-Pilot						
			Electric	Propane	Total Pre Pilot Bill	Electric	All Elec Baseline Credit	Total Post-Credits	DAC-GT Discount	Total Post Pilot Bill	% Bill Change	Energy Savings per month
California City	Single Family	No	$1,246.61	$1,684.64	$2,931.25	$1,582.48	$249.48	$1,333.00	$0.00	$1,333.00	-54.5%	$133.19
	Multifamily	No	$699.05	$1,168.93	$1,867.98	$1,266.56	$249.48	$1,017.08	$0.00	$1,017.08	-45.6%	$70.91
	Mobile Homes	No	$606.56	$1,474.54	$2,081.10	$1,384.64	$249.48	$1,135.16	$0.00	$1,135.16	-45.5%	$78.83
	All	Yes	$903.50	$1,684.64	$2,588.14	$1,480.37	$249.48	$1,230.89	$246.18	$984.71	-62.0%	$133.62
Ducor	Single Family	No	$1,075.06	$1,684.64	$2,759.70	$1,613.48	$344.25	$1,269.23	$0.00	$1,269.23	-54.0%	$124.21
	Multifamily	No	N/A	N/A	N/A	N/A	$344.25	N/A	N/A	N/A	N/A	N/A
	Mobile Homes	No	$1,116.65	$1,474.54	$2,591.18	$1,774.73	$344.25	$1,430.48	$0.00	$1,430.48	-44.8%	$96.73
	All	Yes	$1,001.66	$1,684.64	$2,686.30	$1,555.02	$344.25	$1,210.77	$242.15	$968.62	-63.9%	$143.14
West Goshen	Single Family	No	$1,029.68	$1,684.64	$2,714.32	$1,517.64	$344.25	$1,173.39	$0.00	$1,173.39	-56.8%	$128.41
	Multifamily	No	$880.91	$1,168.93	$2,049.84	$1,411.92	$344.25	$1,067.67	$0.00	$1,067.67	-47.9%	$81.85
	Mobile Homes	No	$808.48	$1,474.54	$2,283.02	$1,558.12	$344.25	$1,213.87	$0.00	$1,213.87	-46.8%	$89.10
	All	Yes	$975.97	$1,684.64	$2,660.61	$1,557.03	$344.25	$1,212.78	$242.56	$970.22	-63.5%	$140.87

Table II-13

Expected Post Pilot Energy Costs – High Consumption, All Available Credits

Estimated Customer Bill Impacts - All Communities, High Consumption and Tiered Rates

Community	Dwelling Type	CARE?	Household Energy Costs Pre-Pilot			Household Energy Costs Post-Pilot						
			Electric	Propane	Total Pre Pilot Bill	Electric	All Elec Baseline Credit	Total Post-Credits	DAC-GT Discount	Total Post Pilot Bill	% Bill Change	Energy Savings per month
California City	Single Family	No	$1,842.70	$1,684.64	$3,527.34	$2,455.43	$249.48	$2,205.95	$0.00	$2,205.95	-37.5%	$110.12
	Multifamily	No	$1,095.75	$1,168.93	$2,264.68	$1,715.71	$249.48	$1,466.23	$0.00	$1,466.23	-35.3%	$66.54
	Mobile Homes	No	$949.08	$1,474.54	$2,423.62	$1,720.21	$249.48	$1,470.73	$0.00	$1,470.73	-39.3%	$79.41
	All	Yes	$1,291.36	$1,684.64	$2,976.00	$1,781.24	$249.48	$1,531.76	$306.35	$1,225.41	-58.8%	$145.88
Ducor	Single Family	No	$1,707.55	$1,684.64	$3,392.19	$2,421.05	$344.25	$2,076.80	$0.00	$2,076.80	-38.8%	$109.62
	Multifamily	No	N/A	N/A	N/A	N/A	$344.25	N/A	N/A	N/A	N/A	N/A
	Mobile Homes	No	$2,180.23	$1,474.54	$3,654.77	$3,078.19	$344.25	$2,733.94	$0.00	$2,733.94	-25.2%	$76.74
	All	Yes	$1,404.09	$1,684.64	$3,088.73	$1,995.16	$344.25	$1,650.91	$330.18	$1,320.73	-57.2%	$147.33
West Goshen	Single Family	No	$1,412.26	$1,684.64	$3,096.90	$1,959.31	$344.25	$1,615.06	$0.00	$1,615.06	-47.8%	$123.49
	Multifamily	No	$1,073.99	$1,168.93	$2,242.92	$1,627.50	$344.25	$1,283.25	$0.00	$1,283.25	-42.8%	$79.97
	Mobile Homes	No	$1,662.95	$1,474.54	$3,137.49	$2,351.41	$344.25	$2,007.16	$0.00	$2,007.16	-36.0%	$94.19
	All	Yes	$1,340.20	$1,684.64	$3,024.84	$1,826.98	$344.25	$1,482.73	$296.55	$1,186.18	-60.8%	$153.22

Estimated Customer Bill Impacts - All Communities, High Consumption and TOU 4 to 9 Rates

Community	Dwelling Type	CARE?	Household Energy Costs Pre-Pilot			Household Energy Costs Post-Pilot						
			Electric	Propane	Total Pre Pilot Bill	Electric	All Elec Baseline Credit	TOU 4 to 9 Credit	Total Post-Credits	DAC-GT Discount	Total Post Pilot Bill	% Bill Change	Energy Savings per month
California City	Single Family	No	$1,842.70	$1,684.64	$3,527.34	$3,654.67	$249.48	$613.33	$2,791.86	$0.00	$2,791.86	-20.9%	$61.29
	Multifamily	No	$1,095.75	$1,168.93	$2,264.68	$2,903.70	$249.48	$613.33	$2,040.89	$0.00	$2,040.89	-9.9%	$18.65
	Mobile Homes	No	$949.08	$1,474.54	$2,423.62	$3,091.23	$249.48	$613.33	$2,228.42	$0.00	$2,228.42	-8.1%	$16.27
	All	Yes	$1,291.36	$1,684.64	$2,976.00	$3,654.67	$249.48	$613.33	$2,791.86	$558.37	$2,233.49	-25.0%	$61.88
Ducor	Single Family	No	$1,707.55	$1,684.64	$3,392.19	$3,704.82	$344.25	$741.99	$2,618.58	$0.00	$2,618.58	-22.8%	$64.47
	Multifamily	No	N/A	N/A	N/A	N/A	$344.25	$741.99	N/A	N/A	N/A	N/A	N/A
	Mobile Homes	No	$2,180.23	$1,474.54	$3,654.77	$3,963.91	$344.25	$741.99	$2,877.67	$0.00	$2,877.67	-21.3%	$64.76
	All	Yes	$1,404.09	$1,684.64	$3,088.73	$3,614.86	$344.25	$741.99	$2,528.62	$505.72	$2,022.90	-34.5%	$88.82
West Goshen	Single Family	No	$1,412.26	$1,684.64	$3,096.90	$3,482.75	$344.25	$741.99	$2,396.51	$0.00	$2,396.51	-22.6%	$58.37
	Multifamily	No	$1,073.99	$1,168.93	$2,242.92	$2,947.77	$344.25	$741.99	$1,861.53	$0.00	$1,861.53	-17.0%	$31.78
	Mobile Homes	No	$1,662.95	$1,474.54	$3,137.49	$5,300.88	$344.25	$741.99	$4,214.64	$0.00	$4,214.64	34.3%	($89.76)
	All	Yes	$1,340.20	$1,684.64	$3,024.84	$3,557.31	$344.25	$741.99	$2,471.07	$494.21	$1,976.86	-34.6%	$87.33

Estimated Customer Bill Impacts - All Communities, High Consumption and TOU Prime Rates

Community	Dwelling Type	CARE?	Household Energy Costs Pre-Pilot			Energy Costs Post-Pilot						
			Electric	Propane	Total Pre Pilot Bill	Electric	All Elec Baseline Credit	Total Post-Credits	DAC-GT Discount	Total Post Pilot Bill	% Bill Change	Energy Savings per month
California City	Single Family	No	$1,842.70	$1,684.64	$3,527.34	$1,911.37	$249.48	$1,661.89	$0.00	$1,661.89	-52.9%	$155.45
	Multifamily	No	$1,095.75	$1,168.93	$2,264.68	$1,518.62	$249.48	$1,269.14	$0.00	$1,269.14	-44.0%	$82.96
	Mobile Homes	No	$949.08	$1,474.54	$2,423.62	$1,616.69	$249.48	$1,367.21	$0.00	$1,367.21	-43.6%	$88.03
	All	Yes	$1,291.36	$1,684.64	$2,976.00	$1,911.37	$249.48	$1,661.89	$332.38	$1,329.51	-55.3%	$137.21
Ducor	Single Family	No	$1,707.55	$1,684.64	$3,392.19	$1,974.52	$344.25	$1,630.27	$0.00	$1,630.27	-51.9%	$146.83
	Multifamily	No	N/A	N/A	N/A	N/A	$344.25	N/A	N/A	N/A	N/A	N/A
	Mobile Homes	No	$2,180.23	$1,474.54	$3,654.77	$2,112.61	$344.25	$1,768.36	$0.00	$1,768.36	-51.6%	$157.20
	All	Yes	$1,404.09	$1,684.64	$3,088.73	$1,926.58	$344.25	$1,582.33	$316.47	$1,265.86	-59.0%	$151.91
West Goshen	Single Family	No	$1,412.26	$1,684.64	$3,096.90	$1,843.04	$344.25	$1,498.79	$0.00	$1,498.79	-51.6%	$133.18
	Multifamily	No	$1,073.99	$1,168.93	$2,242.92	$1,559.93	$344.25	$1,215.68	$0.00	$1,215.68	-45.8%	$85.60
	Mobile Homes	No	$1,662.95	$1,474.54	$3,137.49	$2,805.18	$344.25	$2,460.93	$0.00	$2,460.93	-21.6%	$56.38
	All	Yes	$1,340.20	$1,684.64	$3,024.84	$1,882.50	$344.25	$1,538.25	$307.65	$1,230.60	-59.3%	$149.52

Table II-14

Expected Post Pilot Energy Costs – Low Consumption, All Available Credits

Estimated Customer Bill Impacts - All Communities, Low Consumption and Tiered Rates

Community	Dwelling Type	CARE?	Household Energy Costs Pre-Pilot			Household Energy Costs Post-Pilot						
			Electric	Propane	Total Pre Pilot Bill	Electric	All Elec Baseline Credit	Total Post-Credits	DAC-GT Discount	Total Post Pilot Bill	% Bill Change	Energy Savings per month
California City	Single Family	No	$1,246.61	$1,684.64	$2,931.25	$1,385.98	$249.48	$1,136.50	$0.00	$1,136.50	-61.2%	$149.56
	Multifamily	No	$699.05	$1,168.93	$1,867.98	$1,052.94	$249.48	$803.46	$0.00	$803.46	-57.0%	$88.71
	Mobile Homes	No	$606.56	$1,474.54	$2,081.10	$1,048.47	$249.48	$798.99	$0.00	$798.99	-61.6%	$106.84
	All	Yes	$903.50	$1,684.64	$2,588.14	$1,041.27	$249.48	$791.79	$158.36	$633.43	-75.5%	$162.89
Ducor	Single Family	No	$1,075.06	$1,684.64	$2,759.70	$1,303.51	$344.25	$959.26	$0.00	$959.26	-65.2%	$150.04
	Multifamily	No	N/A	N/A	N/A	N/A	$344.25	N/A	N/A	N/A	N/A	N/A
	Mobile Homes	No	$1,116.65	$1,474.54	$2,591.18	$1,219.89	$344.25	$875.64	$0.00	$875.64	-66.2%	$142.96
	All	Yes	$1,001.66	$1,684.64	$2,686.30	$1,121.44	$344.25	$777.19	$155.44	$621.75	-76.9%	$172.05
West Goshen	Single Family	No	$1,029.68	$1,684.64	$2,714.32	$1,210.00	$344.25	$865.75	$0.00	$865.75	-68.1%	$154.05
	Multifamily	No	$880.91	$1,168.93	$2,049.84	$1,089.51	$344.25	$745.26	$0.00	$745.26	-63.6%	$108.72
	Mobile Homes	No	$808.48	$1,474.54	$2,283.02	$971.70	$344.25	$627.45	$0.00	$627.45	-72.5%	$137.96
	All	Yes	$975.97	$1,684.64	$2,660.61	$1,147.06	$344.25	$802.81	$160.56	$642.25	-75.9%	$168.20

Estimated Customer Bill Impacts - All Communities, Low Consumption and TOU 4 to 9 Rates

Community	Dwelling Type	CARE?	Household Energy Costs Pre-Pilot			Household Energy Costs Post-Pilot							
			Electric	Propane	Total Pre Pilot Bill	Electric	All Elec Baseline Credit	TOU 4 to 9 Credit	Total Post-Credits	DAC-GT Discount	Total Post Pilot Bill	% Bill Change	Energy Savings per month
California City	Single Family	No	$1,246.61	$1,684.64	$2,931.25	$2,444.85	$249.48	$613.33	$1,582.04	$0.00	$1,582.04	-46.0%	$112.43
	Multifamily	No	$699.05	$1,168.93	$1,867.98	$2,058.96	$249.48	$613.33	$1,196.15	$0.00	$1,196.15	-36.0%	$55.99
	Mobile Homes	No	$606.56	$1,474.54	$2,081.10	$2,037.02	$249.48	$613.33	$1,174.21	$0.00	$1,174.21	-43.6%	$75.57
	All	Yes	$903.50	$1,684.64	$2,588.14	$2,444.85	$249.48	$613.33	$1,582.04	$316.41	$1,265.63	-51.1%	$110.21
Ducor	Single Family	No	$1,075.06	$1,684.64	$2,759.70	$2,415.90	$344.25	$741.99	$1,329.66	$0.00	$1,329.66	-51.8%	$119.17
	Multifamily	No	N/A	N/A	N/A	N/A	$344.25	$741.99	N/A	N/A	N/A	N/A	N/A
	Mobile Homes	No	$1,116.65	$1,474.54	$2,591.18	$2,174.33	$344.25	$741.99	$1,088.09	$0.00	$1,088.09	-58.0%	$125.26
	All	Yes	$1,001.66	$1,684.64	$2,686.30	$2,384.37	$344.25	$741.99	$1,298.13	$259.63	$1,038.50	-61.3%	$137.32
West Goshen	Single Family	No	$1,029.68	$1,684.64	$2,714.32	$2,332.85	$344.25	$741.99	$1,246.61	$0.00	$1,246.61	-54.1%	$122.31
	Multifamily	No	$880.91	$1,168.93	$2,049.84	$2,320.05	$344.25	$741.99	$1,233.81	$0.00	$1,233.81	-39.8%	$68.00
	Mobile Homes	No	$808.48	$1,474.54	$2,283.02	$2,073.00	$344.25	$741.99	$986.76	$0.00	$986.76	-56.8%	$108.02
	All	Yes	$975.97	$1,684.64	$2,660.61	$2,503.56	$344.25	$741.99	$1,417.32	$283.46	$1,133.86	-57.4%	$127.23

Estimated Customer Bill Impacts - All Communities, Low Consumption and TOU Prime Rates

Community	Dwelling Type	CARE?	Household Energy Costs Pre-Pilot			Household Energy Costs Post-Pilot						
			Electric	Propane	Total Pre Pilot Bill	Electric	All Elec Baseline Credit	Total Post-Credits	DAC-GT Discount	Total Post Pilot Bill	% Bill Change	Energy Savings per month
California City	Single Family	No	$1,246.61	$1,684.64	$2,931.25	$1,278.64	$249.48	$1,029.16	$0.00	$1,029.16	-64.9%	$158.51
	Multifamily	No	$699.05	$1,168.93	$1,867.98	$1,076.83	$249.48	$827.35	$0.00	$827.35	-55.7%	$86.72
	Mobile Homes	No	$606.56	$1,474.54	$2,081.10	$1,065.35	$249.48	$815.87	$0.00	$815.87	-60.8%	$105.44
	All	Yes	$903.50	$1,684.64	$2,588.14	$1,278.64	$249.48	$1,029.16	$205.83	$823.33	-68.2%	$147.07
Ducor	Single Family	No	$1,075.06	$1,684.64	$2,759.70	$1,287.58	$344.25	$943.33	$0.00	$943.33	-65.8%	$151.36
	Multifamily	No	N/A	N/A	N/A	N/A	$344.25	N/A	N/A	N/A	N/A	N/A
	Mobile Homes	No	$1,116.65	$1,474.54	$2,591.18	$1,158.83	$344.25	$814.58	$0.00	$814.58	-68.6%	$148.05
	All	Yes	$1,001.66	$1,684.64	$2,686.30	$1,270.78	$344.25	$926.53	$185.31	$741.22	-72.4%	$162.09
West Goshen	Single Family	No	$1,029.68	$1,684.64	$2,714.32	$1,234.52	$344.25	$890.27	$0.00	$890.27	-67.2%	$152.00
	Multifamily	No	$880.91	$1,168.93	$2,049.84	$1,227.75	$344.25	$883.50	$0.00	$883.50	-56.9%	$97.20
	Mobile Homes	No	$808.48	$1,474.54	$2,283.02	$1,097.01	$344.25	$752.76	$0.00	$752.76	-67.0%	$127.52
	All	Yes	$975.97	$1,684.64	$2,660.61	$1,324.86	$344.25	$980.61	$196.12	$784.49	-70.5%	$156.34

Table II-15

Expected Post Pilot Energy Costs – Median Consumption, All-Electric Credit Only

Estimated Customer Bill Impacts - All Communities, Median Consumption and Tiered Rates

Community	Dwelling Type	Household Energy Costs Pre-Pilot			Household Energy Costs Post-Pilot						Energy Savings per month
		Electric	Propane	Total Pre Pilot Bill	Electric	All Elec Baseline Credit	Total Post-Credits	20% DACs Bill Discount	Total Post Pilot Bill	% Bill Change	
California City	Single Family	$1,246.61	$1,684.64	$2,931.25	$1,847.27	$249.48	$1,597.79	$0.00	$1,597.79	-45.5%	$111.12
	Multifamily	$699.05	$1,168.93	$1,867.98	$1,306.80	$249.48	$1,057.32	$0.00	$1,057.32	-43.4%	$67.56
	Mobile Homes	$606.56	$1,474.54	$2,081.10	$1,362.50	$249.48	$1,113.02	$0.00	$1,113.02	-46.5%	$80.67
	CARE	$903.50	$1,684.64	$2,588.14	$1,383.72	$249.48	$1,134.24	$0.00	$1,134.24	-56.2%	$121.16
Ducor	Single Family	$1,075.06	$1,684.64	$2,759.70	$1,666.75	$344.25	$1,322.50	$0.00	$1,322.50	-52.1%	$119.77
	Multifamily	N/A	N/A	N/A	N/A	$344.25	N/A	N/A	N/A	N/A	N/A
	Mobile Homes	$1,116.65	$1,474.54	$2,591.18	$1,861.29	$344.25	$1,517.04	$0.00	$1,517.04	-41.5%	$89.51
	CARE	$1,001.66	$1,684.64	$2,686.30	$1,491.81	$344.25	$1,147.56	$0.00	$1,147.56	-57.3%	$128.23
West Goshen	Single Family	$1,029.68	$1,684.64	$2,714.32	$1,576.72	$344.25	$1,232.47	$0.00	$1,232.47	-54.6%	$123.49
	Multifamily	$880.91	$1,168.93	$2,049.84	$1,434.42	$344.25	$1,090.17	$0.00	$1,090.17	-46.8%	$79.97
	Mobile Homes	$808.48	$1,474.54	$2,283.02	$1,496.95	$344.25	$1,152.70	$0.00	$1,152.70	-49.5%	$94.19
	CARE	$975.97	$1,684.64	$2,660.61	$1,462.75	$344.25	$1,118.50	$0.00	$1,118.50	-58.0%	$128.51

Estimated Customer Bill Impacts - All Communities, Median Consumption and TOU 4 to 9 Rates

Community	Dwelling Type	Household Energy Costs Pre-Pilot			Household Energy Costs Post-Pilot							Energy Savings per month
		Electric	Propane	Total Pre Pilot Bill	Electric	All Elec Baseline Credit	TOU 4 to 9 Credit	Total Post-Credits	20% DACs Bill Discount	Total Post Pilot Bill	% Bill Change	
California City	Single Family	$1,246.61	$1,684.64	$2,931.25	$3,025.80	$249.48	$613.33	$2,162.99	$0.00	$2,162.99	-26.2%	$64.02
	Multifamily	$699.05	$1,168.93	$1,867.98	$2,421.76	$249.48	$613.33	$1,558.95	$0.00	$1,558.95	-16.5%	$25.75
	Mobile Homes	$606.56	$1,474.54	$2,081.10	$2,647.53	$249.48	$613.33	$1,784.72	$0.00	$1,784.72	-14.2%	$24.70
	CARE	$903.50	$1,684.64	$2,588.14	$2,830.58	$249.48	$613.33	$1,967.77	$0.00	$1,967.77	-24.0%	$51.70
Ducor	Single Family	$1,075.06	$1,684.64	$2,759.70	$3,027.38	$344.25	$741.99	$1,941.14	$0.00	$1,941.14	-29.7%	$68.21
	Multifamily	N/A	N/A	N/A	N/A	$344.25	$741.99	N/A	N/A	N/A	N/A	N/A
	Mobile Homes	$1,116.65	$1,474.54	$2,591.18	$3,329.94	$344.25	$741.99	$2,243.70	$0.00	$2,243.70	-13.4%	$28.96
	CARE	$1,001.66	$1,684.64	$2,686.30	$2,917.70	$344.25	$741.99	$1,831.46	$0.00	$1,831.46	-31.8%	$71.24
West Goshen	Single Family	$1,029.68	$1,684.64	$2,714.32	$2,867.85	$344.25	$741.99	$1,781.61	$0.00	$1,781.61	-34.4%	$77.73
	Multifamily	$880.91	$1,168.93	$2,049.84	$2,668.08	$344.25	$741.99	$1,581.84	$0.00	$1,581.84	-22.8%	$39.00
	Mobile Homes	$808.48	$1,474.54	$2,283.02	$2,944.34	$344.25	$741.99	$1,858.10	$0.00	$1,858.10	-18.6%	$35.41
	CARE	$975.97	$1,684.64	$2,660.61	$2,942.29	$344.25	$741.99	$1,856.05	$0.00	$1,856.05	-30.2%	$67.05

Estimated Customer Bill Impacts - All Communities, Median Consumption and TOU Prime Rates

Community	Dwelling Type	Household Energy Costs Pre-Pilot			Household Energy Costs Post-Pilot						Energy Savings per month
		Electric	Propane	Total Pre Pilot Bill	Electric	All Elec Baseline Credit	Total Post-Credits	20% DACs Bill Discount	Total Post Pilot Bill	% Bill Change	
California City	Single Family	$1,246.61	$1,684.64	$2,931.25	$1,582.48	$249.48	$1,333.00	$0.00	$1,333.00	-54.5%	$133.19
	Multifamily	$699.05	$1,168.93	$1,867.98	$1,266.56	$249.48	$1,017.08	$0.00	$1,017.08	-45.6%	$70.91
	Mobile Homes	$606.56	$1,474.54	$2,081.10	$1,384.64	$249.48	$1,135.16	$0.00	$1,135.16	-45.5%	$78.83
	CARE	$903.50	$1,684.64	$2,588.14	$1,480.37	$249.48	$1,230.89	$0.00	$1,230.89	-52.4%	$113.10
Ducor	Single Family	$1,075.06	$1,684.64	$2,759.70	$1,613.48	$344.25	$1,269.23	$0.00	$1,269.23	-54.0%	$124.21
	Multifamily	N/A	N/A	N/A	N/A	$344.25	N/A	N/A	N/A	N/A	N/A
	Mobile Homes	$1,116.65	$1,474.54	$2,591.18	$1,774.73	$344.25	$1,430.48	$0.00	$1,430.48	-44.8%	$96.73
	CARE	$1,001.66	$1,684.64	$2,686.30	$1,555.02	$344.25	$1,210.77	$0.00	$1,210.77	-54.9%	$122.96
West Goshen	Single Family	$1,029.68	$1,684.64	$2,714.32	$1,517.64	$344.25	$1,173.39	$0.00	$1,173.39	-56.8%	$128.41
	Multifamily	$880.91	$1,168.93	$2,049.84	$1,411.92	$344.25	$1,067.67	$0.00	$1,067.67	-47.9%	$81.85
	Mobile Homes	$808.48	$1,474.54	$2,283.02	$1,558.12	$344.25	$1,213.87	$0.00	$1,213.87	-46.8%	$89.10
	CARE	$975.97	$1,684.64	$2,660.61	$1,557.03	$344.25	$1,212.78	$0.00	$1,212.78	-54.4%	$120.65

Table II-16

Expected Post Pilot Energy Costs – High Consumption, All-Electric Credit Only

Estimated Customer Bill Impacts - All Communities, High Consumption and Tiered Rates

Community	Dwelling Type	Household Energy Costs Pre-Pilot			Household Energy Costs Post-Pilot						Energy Savings per month
		Electric	Propane	Total Pre Pilot Bill	Electric	All Elec Baseline Credit	Total Post-Credits	20% DACs Bill Discount	Total Post Pilot Bill	% Bill Change	
California City	Single Family	$1,842.70	$1,684.64	$3,527.34	$2,455.43	$249.48	$2,205.95	$0.00	$2,205.95	-37.5%	$110.12
	Multifamily	$1,095.75	$1,168.93	$2,264.68	$1,715.71	$249.48	$1,466.23	$0.00	$1,466.23	-35.3%	$66.54
	Mobile Homes	$949.08	$1,474.54	$2,423.62	$1,720.21	$249.48	$1,470.73	$0.00	$1,470.73	-39.3%	$79.41
	CARE	$1,291.36	$1,684.64	$2,976.00	$1,781.24	$249.48	$1,531.76	$0.00	$1,531.76	-48.5%	$120.35
Ducor	Single Family	$1,707.55	$1,684.64	$3,392.19	$2,421.05	$344.25	$2,076.80	$0.00	$2,076.80	-38.8%	$109.62
	Multifamily	N/A	N/A	N/A	N/A	$344.25	N/A	N/A	N/A	N/A	N/A
	Mobile Homes	$2,180.23	$1,474.54	$3,654.77	$3,078.19	$344.25	$2,733.94	$0.00	$2,733.94	-25.2%	$76.74
	CARE	$1,404.09	$1,684.64	$3,088.73	$1,995.16	$344.25	$1,650.91	$0.00	$1,650.91	-46.6%	$119.82
West Goshen	Single Family	$1,412.26	$1,684.64	$3,096.90	$1,959.31	$344.25	$1,615.06	$0.00	$1,615.06	-47.8%	$123.49
	Multifamily	$1,073.99	$1,168.93	$2,242.92	$1,627.50	$344.25	$1,283.25	$0.00	$1,283.25	-42.8%	$79.97
	Mobile Homes	$1,662.95	$1,474.54	$3,137.49	$2,351.41	$344.25	$2,007.16	$0.00	$2,007.16	-36.0%	$94.19
	CARE	$1,340.20	$1,684.64	$3,024.84	$1,826.98	$344.25	$1,482.73	$0.00	$1,482.73	-51.0%	$128.51

Estimated Customer Bill Impacts - All Communities, High Consumption and TOU 4 to 9 Rates

Community	Dwelling Type	Household Energy Costs Pre-Pilot			Household Energy Costs Post-Pilot							Energy Savings per month
		Electric	Propane	Total Pre Pilot Bill	Electric	All Elec Baseline Credit	TOU 4 to 9 Credit	Total Post-Credits	20% DACs Bill Discount	Total Post Pilot Bill	% Bill Change	
California City	Single Family	$1,842.70	$1,684.64	$3,527.34	$3,654.67	$249.48	$613.33	$2,791.86	$0.00	$2,791.86	-20.9%	$61.29
	Multifamily	$1,095.75	$1,168.93	$2,264.68	$2,903.70	$249.48	$613.33	$2,040.89	$0.00	$2,040.89	-9.9%	$18.65
	Mobile Homes	$949.08	$1,474.54	$2,423.62	$3,091.23	$249.48	$613.33	$2,228.42	$0.00	$2,228.42	-8.1%	$16.27
	CARE	$1,291.36	$1,684.64	$2,976.00	$3,654.67	$249.48	$613.33	$2,791.86	$0.00	$2,791.86	-6.2%	$15.35
Ducor	Single Family	$1,707.55	$1,684.64	$3,392.19	$3,704.82	$344.25	$741.99	$2,618.58	$0.00	$2,618.58	-22.8%	$64.47
	Multifamily	N/A	N/A	N/A	N/A	$344.25	$741.99	N/A	N/A	N/A	N/A	N/A
	Mobile Homes	$2,180.23	$1,474.54	$3,654.77	$3,963.91	$344.25	$741.99	$2,877.67	$0.00	$2,877.67	-21.3%	$64.76
	CARE	$1,404.09	$1,684.64	$3,088.73	$3,614.86	$344.25	$741.99	$2,528.62	$0.00	$2,528.62	-18.1%	$46.68
West Goshen	Single Family	$1,412.26	$1,684.64	$3,096.90	$3,482.75	$344.25	$741.99	$2,396.51	$0.00	$2,396.51	-22.6%	$58.37
	Multifamily	$1,073.99	$1,168.93	$2,242.92	$2,947.77	$344.25	$741.99	$1,861.53	$0.00	$1,861.53	-17.0%	$31.78
	Mobile Homes	$1,662.95	$1,474.54	$3,137.49	$5,300.88	$344.25	$741.99	$4,214.64	$0.00	$4,214.64	34.3%	($89.76)
	CARE	$1,340.20	$1,684.64	$3,024.84	$3,557.31	$344.25	$741.99	$2,471.07	$0.00	$2,471.07	-18.3%	$46.15

Estimated Customer Bill Impacts - All Communities, High Consumption and TOU Prime Rates

Community	Dwelling Type	Household Energy Costs Pre-Pilot			Household Energy Costs Post-Pilot						Energy Savings per month
		Electric	Propane	Total Pre Pilot Bill	Electric	All Elec Baseline Credit	Total Post-Credits	20% DACs Bill Discount	Total Post Pilot Bill	% Bill Change	
California City	Single Family	$1,842.70	$1,684.64	$3,527.34	$1,911.37	$249.48	$1,661.89	$0.00	$1,661.89	-52.9%	$155.45
	Multifamily	$1,095.75	$1,168.93	$2,264.68	$1,518.62	$249.48	$1,269.14	$0.00	$1,269.14	-44.0%	$82.96
	Mobile Homes	$949.08	$1,474.54	$2,423.62	$1,616.69	$249.48	$1,367.21	$0.00	$1,367.21	-43.6%	$88.03
	CARE	$1,291.36	$1,684.64	$2,976.00	$1,911.37	$249.48	$1,661.89	$0.00	$1,661.89	-44.2%	$109.51
Ducor	Single Family	$1,707.55	$1,684.64	$3,392.19	$1,974.52	$344.25	$1,630.27	$0.00	$1,630.27	-51.9%	$146.83
	Multifamily	N/A	N/A	N/A	N/A	$344.25	N/A	N/A	N/A	N/A	N/A
	Mobile Homes	$2,180.23	$1,474.54	$3,654.77	$2,112.61	$344.25	$1,768.36	$0.00	$1,768.36	-51.6%	$157.20
	CARE	$1,404.09	$1,684.64	$3,088.73	$1,926.58	$344.25	$1,582.33	$0.00	$1,582.33	-48.8%	$125.53
West Goshen	Single Family	$1,412.26	$1,684.64	$3,096.90	$1,843.04	$344.25	$1,498.79	$0.00	$1,498.79	-51.6%	$133.18
	Multifamily	$1,073.99	$1,168.93	$2,242.92	$1,559.93	$344.25	$1,215.68	$0.00	$1,215.68	-45.8%	$85.60
	Mobile Homes	$1,662.95	$1,474.54	$3,137.49	$2,805.18	$344.25	$2,460.93	$0.00	$2,460.93	-21.6%	$56.38
	CARE	$1,340.20	$1,684.64	$3,024.84	$1,882.50	$344.25	$1,538.25	$0.00	$1,538.25	-49.1%	$123.88

Table II-17

Expected Post Pilot Energy Costs – Low Consumption, All-Electric Credit Only

Estimated Customer Bill Impacts - All Communities, Low Consumption and Tiered Rates

Community	Dwelling Type	Household Energy Costs Pre-Pilot			Household Energy Costs Post-Pilot						Energy Savings per month
		Electric	Propane	Total Pre Pilot Bill	Electric	All Elec Baseline Credit	Total Post-Credits	20%DACs Bill Discount	Total Post Pilot Bill	%Bill Change	
California City	Single Family	$1,246.61	$1,684.64	$2,931.25	$1,385.98	$249.48	$1,136.50	$0.00	$1,136.50	-61.2%	$149.56
	Multifamily	$699.05	$1,168.93	$1,867.98	$1,052.94	$249.48	$803.46	$0.00	$803.46	-57.0%	$88.71
	Mobile Homes	$606.56	$1,474.54	$2,081.10	$1,048.47	$249.48	$798.99	$0.00	$798.99	-61.6%	$106.84
	CARE	$903.50	$1,684.64	$2,588.14	$1,041.27	$249.48	$791.79	$0.00	$791.79	-69.4%	$149.70
Ducor	Single Family	$1,075.06	$1,684.64	$2,759.70	$1,303.51	$344.25	$959.26	$0.00	$959.26	-65.2%	$150.04
	Multifamily	N/A	N/A	N/A	N/A	$344.25	N/A	N/A	N/A	N/A	N/A
	Mobile Homes	$1,116.65	$1,474.54	$2,591.18	$1,219.89	$344.25	$875.64	$0.00	$875.64	-66.2%	$142.96
	CARE	$1,001.66	$1,684.64	$2,686.30	$1,121.44	$344.25	$777.19	$0.00	$777.19	-71.1%	$159.09
1	Single Family	$1,029.68	$1,684.64	$2,714.32	$1,210.00	$344.25	$865.75	$0.00	$865.75	-68.1%	$154.05
	Multifamily	$880.91	$1,168.93	$2,049.84	$1,089.51	$344.25	$745.26	$0.00	$745.26	-63.6%	$108.72
	Mobile Homes	$808.48	$1,474.54	$2,283.02	$971.70	$344.25	$627.45	$0.00	$627.45	-72.5%	$137.96
	CARE	$975.97	$1,684.64	$2,660.61	$1,147.06	$344.25	$802.81	$0.00	$802.81	-69.8%	$154.82

Estimated Customer Bill Impacts - All Communities, Low Consumption and TOU 4 to 9 Rates

Community	Dwelling Type	Household Energy Costs Pre-Pilot			Household Energy Costs Post-Pilot						Energy Savings per month
		Electric	Propane	Total Pre Pilot Bill	Electric	All Elec Baseline Credit	TOU 4 to 9 Credit	Total Post-Credits	20%DACs Bill Discount	Total Post Pilot Bill	%Bill Change	
California City	Single Family	$1,246.61	$1,684.64	$2,931.25	$2,444.85	$249.48	$613.33	$1,582.04	$0.00	$1,582.04	-46.0%	$112.43
	Multifamily	$699.05	$1,168.93	$1,867.98	$2,058.96	$249.48	$613.33	$1,196.15	$0.00	$1,196.15	-36.0%	$55.99
	Mobile Homes	$606.56	$1,474.54	$2,081.10	$2,037.02	$249.48	$613.33	$1,174.21	$0.00	$1,174.21	-43.6%	$75.57
	CARE	$903.50	$1,684.64	$2,588.14	$2,444.85	$249.48	$613.33	$1,582.04	$0.00	$1,582.04	-38.9%	$83.84
Ducor	Single Family	$1,075.06	$1,684.64	$2,759.70	$2,415.90	$344.25	$741.99	$1,329.66	$0.00	$1,329.66	-51.8%	$119.17
	Multifamily	N/A	N/A	N/A	N/A	$344.25	$741.99	N/A	N/A	N/A	N/A	N/A
	Mobile Homes	$1,116.65	$1,474.54	$2,591.18	$2,174.33	$344.25	$741.99	$1,088.09	$0.00	$1,088.09	-58.0%	$125.26
	CARE	$1,001.66	$1,684.64	$2,686.30	$2,384.37	$344.25	$741.99	$1,298.13	$0.00	$1,298.13	-51.7%	$115.68
West Goshen	Single Family	$1,029.68	$1,684.64	$2,714.32	$2,332.85	$344.25	$741.99	$1,246.61	$0.00	$1,246.61	-54.1%	$122.31
	Multifamily	$880.91	$1,168.93	$2,049.84	$2,320.05	$344.25	$741.99	$1,233.81	$0.00	$1,233.81	-39.8%	$68.00
	Mobile Homes	$808.48	$1,474.54	$2,283.02	$2,073.00	$344.25	$741.99	$986.76	$0.00	$986.76	-56.8%	$108.02
	CARE	$975.97	$1,684.64	$2,660.61	$2,503.56	$344.25	$741.99	$1,417.32	$0.00	$1,417.32	-46.7%	$103.61

Estimated Customer Bill Impacts - All Communities, Low Consumption and TOU Prime Rates

Community	Dwelling Type	Household Energy Costs Pre-Pilot			Household Energy Costs Post-Pilot						Energy Savings per month
		Electric	Propane	Total Pre Pilot Bill	Electric	All Elec Baseline Credit	Total Post-Credits	20%DACs Bill Discount	Total Post Pilot Bill	%Bill Change	
California City	Single Family	$1,246.61	$1,684.64	$2,931.25	$1,278.64	$249.48	$1,029.16	$0.00	$1,029.16	-64.9%	$158.51
	Multifamily	$699.05	$1,168.93	$1,867.98	$1,076.83	$249.48	$827.35	$0.00	$827.35	-55.7%	$86.72
	Mobile Homes	$606.56	$1,474.54	$2,081.10	$1,065.35	$249.48	$815.87	$0.00	$815.87	-60.8%	$105.44
	CARE	$903.50	$1,684.64	$2,588.14	$1,278.64	$249.48	$1,029.16	$0.00	$1,029.16	-60.2%	$129.91
Ducor	Single Family	$1,075.06	$1,684.64	$2,759.70	$1,287.58	$344.25	$943.33	$0.00	$943.33	-65.8%	$151.36
	Multifamily	N/A	N/A	N/A	N/A	$344.25	N/A	N/A	N/A	N/A	N/A
	Mobile Homes	$1,116.65	$1,474.54	$2,591.18	$1,158.83	$344.25	$814.58	$0.00	$814.58	-68.6%	$148.05
	CARE	$1,001.66	$1,684.64	$2,686.30	$1,270.78	$344.25	$926.53	$0.00	$926.53	-65.5%	$146.65
West Goshen	Single Family	$1,029.68	$1,684.64	$2,714.32	$1,234.52	$344.25	$890.27	$0.00	$890.27	-67.2%	$152.00
	Multifamily	$880.91	$1,168.93	$2,049.84	$1,227.75	$344.25	$883.50	$0.00	$883.50	-56.9%	$97.20
	Mobile Homes	$808.48	$1,474.54	$2,283.02	$1,097.01	$344.25	$752.76	$0.00	$752.76	-67.0%	$127.52
	CARE	$975.97	$1,684.64	$2,660.61	$1,324.86	$344.25	$980.61	$0.00	$980.61	-63.1%	$140.00

Table II-18

Expected Post Pilot Energy Costs – Median Consumption, No Credits

Estimated Customer Bill Impacts - All Communities, Median Consumption and Tiered Rates

Community	Dwelling Type	Household Energy Costs Pre-Pilot			Household Energy Costs Post-Pilot						Energy Savings per month
		Electric	Propane	Total Pre Pilot Bill	Electric	All Elec Baseline Credit	Total Post-Credits	20% DACs Bill Discount	Total Post Pilot Bill	% Bill Change	
California City	Single Family	$1,246.61	$1,684.64	$2,931.25	$1,847.27	$0.00	$1,847.27	$0.00	$1,847.27	-37.0%	$90.33
	Multifamily	$699.05	$1,168.93	$1,867.98	$1,306.80	$0.00	$1,306.80	$0.00	$1,306.80	-30.0%	$46.77
	Mobile Homes	$606.56	$1,474.54	$2,081.10	$1,362.50	$0.00	$1,362.50	$0.00	$1,362.50	-34.5%	$59.88
	CARE	$903.50	$1,684.64	$2,588.14	$1,383.72	$0.00	$1,383.72	$0.00	$1,383.72	-46.5%	$100.37
Ducor	Single Family	$1,075.06	$1,684.64	$2,759.70	$1,666.75	$0.00	$1,666.75	$0.00	$1,666.75	-39.6%	$91.08
	Multifamily	N/A	N/A	N/A	N/A	$0.00	N/A	N/A	N/A	N/A	N/A
	Mobile Homes	$1,116.65	$1,474.54	$2,591.18	$1,861.29	$0.00	$1,861.29	$0.00	$1,861.29	-28.2%	$60.82
	CARE	$1,001.66	$1,684.64	$2,686.30	$1,491.81	$0.00	$1,491.81	$0.00	$1,491.81	-44.5%	$99.54
West Goshen	Single Family	$1,029.68	$1,684.64	$2,714.32	$1,576.72	$0.00	$1,576.72	$0.00	$1,576.72	-41.9%	$94.80
	Multifamily	$880.91	$1,168.93	$2,049.84	$1,434.42	$0.00	$1,434.42	$0.00	$1,434.42	-30.0%	$51.29
	Mobile Homes	$808.48	$1,474.54	$2,283.02	$1,496.95	$0.00	$1,496.95	$0.00	$1,496.95	-34.4%	$65.51
	CARE	$975.97	$1,684.64	$2,660.61	$1,462.75	$0.00	$1,462.75	$0.00	$1,462.75	-45.0%	$99.82

Estimated Customer Bill Impacts - All Communities, Median Consumption and TOU 4 to 9 Rates

Community	Dwelling Type	Household Energy Costs Pre-Pilot			Household Energy Costs Post-Pilot							Energy Savings per month
		Electric	Propane	Total Pre Pilot Bill	Electric	All Elec Baseline Credit	TOU 4 to 9 Credit	Total Post-Credits	20% DACs Bill Discount	Total Post Pilot Bill	% Bill Change	
California City	Single Family	$1,246.61	$1,684.64	$2,931.25	$3,025.80	$0.00	$613.33	$2,412.47	$0.00	$2,412.47	-17.7%	$43.23
	Multifamily	$699.05	$1,168.93	$1,867.98	$2,421.76	$0.00	$613.33	$1,808.43	$0.00	$1,808.43	-3.2%	$4.96
	Mobile Homes	$606.56	$1,474.54	$2,081.10	$2,647.53	$0.00	$613.33	$2,034.20	$0.00	$2,034.20	-2.3%	$3.91
	CARE	$903.50	$1,684.64	$2,588.14	$2,830.58	$0.00	$613.33	$2,217.25	$0.00	$2,217.25	-14.3%	$30.91
Ducor	Single Family	$1,075.06	$1,684.64	$2,759.70	$3,027.38	$0.00	$741.99	$2,285.39	$0.00	$2,285.39	-17.2%	$39.53
	Multifamily	N/A	N/A	N/A	N/A	$0.00	$741.99	N/A	N/A	N/A	N/A	N/A
	Mobile Homes	$1,116.65	$1,474.54	$2,591.18	$3,329.94	$0.00	$741.99	$2,587.95	$0.00	$2,587.95	-0.1%	$0.27
	CARE	$1,001.66	$1,684.64	$2,686.30	$2,917.70	$0.00	$741.99	$2,175.71	$0.00	$2,175.71	-19.0%	$42.55
West Goshen	Single Family	$1,029.68	$1,684.64	$2,714.32	$2,867.85	$0.00	$741.99	$2,125.86	$0.00	$2,125.86	-21.7%	$49.04
	Multifamily	$880.91	$1,168.93	$2,049.84	$2,668.08	$0.00	$741.99	$1,926.09	$0.00	$1,926.09	-6.0%	$10.31
	Mobile Homes	$808.48	$1,474.54	$2,283.02	$2,944.34	$0.00	$741.99	$2,202.35	$0.00	$2,202.35	-3.5%	$6.72
	CARE	$975.97	$1,684.64	$2,660.61	$2,942.29	$0.00	$741.99	$2,200.30	$0.00	$2,200.30	-17.3%	$38.36

Estimated Customer Bill Impacts - All Communities, Median Consumption and TOU Prime Rates

Community	Dwelling Type	Household Energy Costs Pre-Pilot			Household Energy Costs Post-Pilot						Energy Savings per month
		Electric	Propane	Total Pre Pilot Bill	Electric	All Elec Baseline Credit	Total Post-Credits	20% DACs Bill Discount	Total Post Pilot Bill	% Bill Change	
California City	Single Family	$1,246.61	$1,684.64	$2,931.25	$1,582.48	$0.00	$1,582.48	$0.00	$1,582.48	-46.0%	$112.40
	Multifamily	$699.05	$1,168.93	$1,867.98	$1,266.56	$0.00	$1,266.56	$0.00	$1,266.56	-32.2%	$50.12
	Mobile Homes	$606.56	$1,474.54	$2,081.10	$1,384.64	$0.00	$1,384.64	$0.00	$1,384.64	-33.5%	$58.04
	CARE	$903.50	$1,684.64	$2,588.14	$1,480.37	$0.00	$1,480.37	$0.00	$1,480.37	-42.8%	$92.31
Ducor	Single Family	$1,075.06	$1,684.64	$2,759.70	$1,613.48	$0.00	$1,613.48	$0.00	$1,613.48	-41.5%	$95.52
	Multifamily	N/A	N/A	N/A	N/A	$0.00	N/A	N/A	N/A	N/A	N/A
	Mobile Homes	$1,116.65	$1,474.54	$2,591.18	$1,774.73	$0.00	$1,774.73	$0.00	$1,774.73	-31.5%	$68.04
	CARE	$1,001.66	$1,684.64	$2,686.30	$1,555.02	$0.00	$1,555.02	$0.00	$1,555.02	-42.1%	$94.27
West Goshen	Single Family	$1,029.68	$1,684.64	$2,714.32	$1,517.64	$0.00	$1,517.64	$0.00	$1,517.64	-44.1%	$99.72
	Multifamily	$880.91	$1,168.93	$2,049.84	$1,411.92	$0.00	$1,411.92	$0.00	$1,411.92	-31.1%	$53.16
	Mobile Homes	$808.48	$1,474.54	$2,283.02	$1,558.12	$0.00	$1,558.12	$0.00	$1,558.12	-31.8%	$60.41
	CARE	$975.97	$1,684.64	$2,660.61	$1,557.03	$0.00	$1,557.03	$0.00	$1,557.03	-41.5%	$91.96

Table II-19

Expected Post Pilot Energy Costs – High Consumption, No Credits

Estimated Customer Bill Impacts - All Communities, High Consumption and Tiered Rates

Community	Dwelling Type	Household Energy Costs Pre-Pilot			Household Energy Costs Post-Pilot						Energy Savings per month
		Electric	Propane	Total Pre Pilot Bill	Electric	All Elec Baseline Credit	Total Post-Credits	20% DACs Bill Discount	Total Post Pilot Bill	% Bill Change	
California City	Single Family	$1,842.70	$1,684.64	$3,527.34	$2,455.43	$0.00	$2,455.43	$0.00	$2,455.43	-30.4%	$89.33
	Multifamily	$1,095.75	$1,168.93	$2,264.68	$1,715.71	$0.00	$1,715.71	$0.00	$1,715.71	-24.2%	$45.75
	Mobile Homes	$949.08	$1,474.54	$2,423.62	$1,720.21	$0.00	$1,720.21	$0.00	$1,720.21	-29.0%	$58.62
	CARE	$1,291.36	$1,684.64	$2,976.00	$1,781.24	$0.00	$1,781.24	$0.00	$1,781.24	-40.1%	$99.56
Ducor	Single Family	$1,707.55	$1,684.64	$3,392.19	$2,421.05	$0.00	$2,421.05	$0.00	$2,421.05	-28.6%	$80.93
	Multifamily	N/A	N/A	N/A	N/A	$0.00	N/A	N/A	N/A	N/A	N/A
	Mobile Homes	$2,180.23	$1,474.54	$3,654.77	$3,078.19	$0.00	$3,078.19	$0.00	$3,078.19	-15.8%	$48.05
	CARE	$1,404.09	$1,684.64	$3,088.73	$1,995.16	$0.00	$1,995.16	$0.00	$1,995.16	-35.4%	$91.13
West Goshen	Single Family	$1,412.26	$1,684.64	$3,096.90	$1,959.31	$0.00	$1,959.31	$0.00	$1,959.31	-36.7%	$94.80
	Multifamily	$1,073.99	$1,168.93	$2,242.92	$1,627.50	$0.00	$1,627.50	$0.00	$1,627.50	-27.4%	$51.29
	Mobile Homes	$1,662.95	$1,474.54	$3,137.49	$2,351.41	$0.00	$2,351.41	$0.00	$2,351.41	-25.1%	$65.51
	CARE	$1,340.20	$1,684.64	$3,024.84	$1,826.98	$0.00	$1,826.98	$0.00	$1,826.98	-39.6%	$99.82

Estimated Customer Bill Impacts - All Communities, High Consumption and TOU 4 to 9 Rates

Community	Dwelling Type	Household Energy Costs Pre-Pilot			Household Energy Costs Post-Pilot						Energy Savings per month
		Electric	Propane	Total Pre Pilot Bill	Electric	All Elec Baseline Credit	TOU 4 to 9 Credit	Total Post-Credits	20% DACs Bill Discount	Total Post Pilot Bill	% Bill Change	
California City	Single Family	$1,842.70	$1,684.64	$3,527.34	$3,654.67	$0.00	$613.33	$3,041.34	$0.00	$3,041.34	-13.8%	$40.50
	Multifamily	$1,095.75	$1,168.93	$2,264.68	$2,903.70	$0.00	$613.33	$2,290.37	$0.00	$2,290.37	1.1%	($2.14)
	Mobile Homes	$949.08	$1,474.54	$2,423.62	$3,091.23	$0.00	$613.33	$2,477.90	$0.00	$2,477.90	2.2%	($4.52)
	CARE	$1,291.36	$1,684.64	$2,976.00	$3,654.67	$0.00	$613.33	$3,041.34	$0.00	$3,041.34	2.2%	($5.44)
Ducor	Single Family	$1,707.55	$1,684.64	$3,392.19	$3,704.82	$0.00	$741.99	$2,962.83	$0.00	$2,962.83	-12.7%	$35.78
	Multifamily	N/A	N/A	N/A	N/A	$0.00	$741.99	N/A	N/A	N/A	N/A	N/A
	Mobile Homes	$2,180.23	$1,474.54	$3,654.77	$3,963.91	$0.00	$741.99	$3,221.92	$0.00	$3,221.92	-11.8%	$36.07
	CARE	$1,404.09	$1,684.64	$3,088.73	$3,614.86	$0.00	$741.99	$2,872.87	$0.00	$2,872.87	-7.0%	$17.99
West Goshen	Single Family	$1,412.26	$1,684.64	$3,096.90	$3,482.75	$0.00	$741.99	$2,740.76	$0.00	$2,740.76	-11.5%	$29.68
	Multifamily	$1,073.99	$1,168.93	$2,242.92	$2,947.77	$0.00	$741.99	$2,205.78	$0.00	$2,205.78	-1.7%	$3.10
	Mobile Homes	$1,662.95	$1,474.54	$3,137.49	$5,300.88	$0.00	$741.99	$4,558.89	$0.00	$4,558.89	45.3%	($118.45)
	CARE	$1,340.20	$1,684.64	$3,024.84	$3,557.31	$0.00	$741.99	$2,815.32	$0.00	$2,815.32	-6.9%	$17.46

Estimated Customer Bill Impacts - All Communities, High Consumption and TOU Prime Rates

Community	Dwelling Type	Household Energy Costs Pre-Pilot			Household Energy Costs Post-Pilot						Energy Savings per month
		Electric	Propane	Total Pre Pilot Bill	Electric	All Elec Baseline Credit	Total Post-Credits	20% DACs Bill Discount	Total Post Pilot Bill	% Bill Change	
California City	Single Family	$1,842.70	$1,684.64	$3,527.34	$1,911.37	$0.00	$1,911.37	$0.00	$1,911.37	-45.8%	$134.66
	Multifamily	$1,095.75	$1,168.93	$2,264.68	$1,518.62	$0.00	$1,518.62	$0.00	$1,518.62	-32.9%	$62.17
	Mobile Homes	$949.08	$1,474.54	$2,423.62	$1,616.69	$0.00	$1,616.69	$0.00	$1,616.69	-33.3%	$67.24
	CARE	$1,291.36	$1,684.64	$2,976.00	$1,911.37	$0.00	$1,911.37	$0.00	$1,911.37	-35.8%	$88.72
Ducor	Single Family	$1,707.55	$1,684.64	$3,392.19	$1,974.52	$0.00	$1,974.52	$0.00	$1,974.52	-41.8%	$118.14
	Multifamily	N/A	N/A	N/A	N/A	$0.00	N/A	N/A	N/A	N/A	N/A
	Mobile Homes	$2,180.23	$1,474.54	$3,654.77	$2,112.61	$0.00	$2,112.61	$0.00	$2,112.61	-42.2%	$128.51
	CARE	$1,404.09	$1,684.64	$3,088.73	$1,926.58	$0.00	$1,926.58	$0.00	$1,926.58	-37.6%	$96.85
West Goshen	Single Family	$1,412.26	$1,684.64	$3,096.90	$1,843.04	$0.00	$1,843.04	$0.00	$1,843.04	-40.5%	$104.49
	Multifamily	$1,073.99	$1,168.93	$2,242.92	$1,559.93	$0.00	$1,559.93	$0.00	$1,559.93	-30.5%	$56.92
	Mobile Homes	$1,662.95	$1,474.54	$3,137.49	$2,805.18	$0.00	$2,805.18	$0.00	$2,805.18	-10.6%	$27.69
	CARE	$1,340.20	$1,684.64	$3,024.84	$1,882.50	$0.00	$1,882.50	$0.00	$1,882.50	-37.8%	$95.20

Table II-20

Expected Post Pilot Energy Costs – Low Consumption, No Credits

Estimated Customer Bill Impacts - All Communities, Low Consumption and Tiered Rates

Community	Dwelling Type	Household Energy Costs Pre-Pilot			Household Energy Costs Post-Pilot						Energy Savings per month
		Electric	Propane	Total Pre Pilot Bill	Electric	All Elec Baseline Credit	Total Post-Credits	20%DACs Bill Discount	Total Post Pilot Bill	%Bill Change	
California City	Single Family	$1,246.61	$1,684.64	$2,931.25	$1,385.98	$0.00	$1,385.98	$0.00	$1,385.98	-52.7%	$128.77
	Multifamily	$699.05	$1,168.93	$1,867.98	$1,052.94	$0.00	$1,052.94	$0.00	$1,052.94	-43.6%	$67.92
	Mobile Homes	$606.56	$1,474.54	$2,081.10	$1,048.47	$0.00	$1,048.47	$0.00	$1,048.47	-49.6%	$86.05
	CARE	$903.50	$1,684.64	$2,588.14	$1,041.27	$0.00	$1,041.27	$0.00	$1,041.27	-59.8%	$128.91
Ducor	Single Family	$1,075.06	$1,684.64	$2,759.70	$1,303.51	$0.00	$1,303.51	$0.00	$1,303.51	-52.8%	$121.35
	Multifamily	N/A	N/A	N/A	N/A	$0.00	N/A	N/A	N/A	N/A	N/A
	Mobile Homes	$1,116.65	$1,474.54	$2,591.18	$1,219.89	$0.00	$1,219.89	$0.00	$1,219.89	-52.9%	$114.27
	CARE	$1,001.66	$1,684.64	$2,686.30	$1,121.44	$0.00	$1,121.44	$0.00	$1,121.44	-58.3%	$130.40
1	Single Family	$1,029.68	$1,684.64	$2,714.32	$1,210.00	$0.00	$1,210.00	$0.00	$1,210.00	-55.4%	$125.36
	Multifamily	$880.91	$1,168.93	$2,049.84	$1,089.51	$0.00	$1,089.51	$0.00	$1,089.51	-46.8%	$80.03
	Mobile Homes	$808.48	$1,474.54	$2,283.02	$971.70	$0.00	$971.70	$0.00	$971.70	-57.4%	$109.28
	CARE	$975.97	$1,684.64	$2,660.61	$1,147.06	$0.00	$1,147.06	$0.00	$1,147.06	-56.9%	$126.13

Estimated Customer Bill Impacts - All Communities, Low Consumption and TOU 4 to 9 Rates

Community	Dwelling Type	Household Energy Costs Pre-Pilot			Household Energy Costs Post-Pilot						Energy Savings per month
		Electric	Propane	Total Pre Pilot Bill	Electric	All Elec Baseline Credit	TOU 4 to 9 Credit	Total Post-Credits	20%DACs Bill Discount	Total Post Pilot Bill	%Bill Change	
California City	Single Family	$1,246.61	$1,684.64	$2,931.25	$2,444.85	$0.00	$613.33	$1,831.52	$0.00	$1,831.52	-37.5%	$91.64
	Multifamily	$699.05	$1,168.93	$1,867.98	$2,058.96	$0.00	$613.33	$1,445.63	$0.00	$1,445.63	-22.6%	$35.20
	Mobile Homes	$606.56	$1,474.54	$2,081.10	$2,037.02	$0.00	$613.33	$1,423.69	$0.00	$1,423.69	-31.6%	$54.78
	CARE	$903.50	$1,684.64	$2,588.14	$2,444.85	$0.00	$613.33	$1,831.52	$0.00	$1,831.52	-29.2%	$63.05
Ducor	Single Family	$1,075.06	$1,684.64	$2,759.70	$2,415.90	$0.00	$741.99	$1,673.91	$0.00	$1,673.91	-39.3%	$90.48
	Multifamily	N/A	N/A	N/A	N/A	$0.00	$741.99	N/A	N/A	N/A	N/A	N/A
	Mobile Homes	$1,116.65	$1,474.54	$2,591.18	$2,174.33	$0.00	$741.99	$1,432.34	$0.00	$1,432.34	-44.7%	$96.57
	CARE	$1,001.66	$1,684.64	$2,686.30	$2,384.37	$0.00	$741.99	$1,642.38	$0.00	$1,642.38	-38.9%	$86.99
West Goshen	Single Family	$1,029.68	$1,684.64	$2,714.32	$2,332.85	$0.00	$741.99	$1,590.86	$0.00	$1,590.86	-41.4%	$93.62
	Multifamily	$880.91	$1,168.93	$2,049.84	$2,320.05	$0.00	$741.99	$1,578.06	$0.00	$1,578.06	-23.0%	$39.32
	Mobile Homes	$808.48	$1,474.54	$2,283.02	$2,073.00	$0.00	$741.99	$1,331.01	$0.00	$1,331.01	-41.7%	$79.33
	CARE	$975.97	$1,684.64	$2,660.61	$2,503.56	$0.00	$741.99	$1,761.57	$0.00	$1,761.57	-33.8%	$74.92

Estimated Customer Bill Impacts - All Communities, Low Consumption and TOU Prime Rates

Community	Dwelling Type	Household Energy Costs Pre-Pilot			Household Energy Costs Post-Pilot						Energy Savings per month
		Electric	Propane	Total Pre Pilot Bill	Electric	All Elec Baseline Credit	Total Post-Credits	20%DACs Bill Discount	Total Post Pilot Bill	%Bill Change	
California City	Single Family	$1,246.61	$1,684.64	$2,931.25	$1,278.64	$0.00	$1,278.64	$0.00	$1,278.64	-56.4%	$137.72
	Multifamily	$699.05	$1,168.93	$1,867.98	$1,076.83	$0.00	$1,076.83	$0.00	$1,076.83	-42.4%	$65.93
	Mobile Homes	$606.56	$1,474.54	$2,081.10	$1,065.35	$0.00	$1,065.35	$0.00	$1,065.35	-48.8%	$84.65
	CARE	$903.50	$1,684.64	$2,588.14	$1,278.64	$0.00	$1,278.64	$0.00	$1,278.64	-50.6%	$109.12
Ducor	Single Family	$1,075.06	$1,684.64	$2,759.70	$1,287.58	$0.00	$1,287.58	$0.00	$1,287.58	-53.3%	$122.68
	Multifamily	N/A	N/A	N/A	N/A	$0.00	N/A	N/A	N/A	N/A	N/A
	Mobile Homes	$1,116.65	$1,474.54	$2,591.18	$1,158.83	$0.00	$1,158.83	$0.00	$1,158.83	-55.3%	$119.36
	CARE	$1,001.66	$1,684.64	$2,686.30	$1,270.78	$0.00	$1,270.78	$0.00	$1,270.78	-52.7%	$117.96
West Goshen	Single Family	$1,029.68	$1,684.64	$2,714.32	$1,234.52	$0.00	$1,234.52	$0.00	$1,234.52	-54.5%	$123.32
	Multifamily	$880.91	$1,168.93	$2,049.84	$1,227.75	$0.00	$1,227.75	$0.00	$1,227.75	-40.1%	$68.51
	Mobile Homes	$808.48	$1,474.54	$2,283.02	$1,097.01	$0.00	$1,097.01	$0.00	$1,097.01	-51.9%	$98.83
	CARE	$975.97	$1,684.64	$2,660.61	$1,324.86	$0.00	$1,324.86	$0.00	$1,324.86	-50.2%	$111.31

2. Key Assumptions

SCE identified five electrical appliances for this pilot: heat pump heating and cooling split system, heat pump water heater, electric resistance water heater (multifamily units and mobile homes) electric radiant glass cooktop and electric dryer. The total per unit cost for each appliances is a combined appliance and installation cost. The kWh consumption for each appliances and source is shown in the table below.

Table II-21

Annual kWh Consumption

Appliance	Annual kWh Consumption			Source
	Single Family	Multifamily	Mobile Home	
Heat Pump Heating & Cooling Split System	1946	961	1955	2009 RASS, Zone 7 - sum of electric A/C and electric heating units plus 30% increase for summer consumption
Heat Pump Water Heater	1,110			SCE Work Paper plus 15% increase
Electric Resistance Water Heater		2,143	2,143	2009 RASS, Zone 7
Electric Radiant Glass Stovetop	282	282	282	2009 RASS, Zone 7
Electric Dryer	693	693	693	2009 RASS, Zone 7

SCE has assumed all households will require weatherization work to improve the envelope of the home to support the efficiency of the electrical appliances. SCE has also assumed the electrical conduits and panel of each participant household will require an upgrade to support the increased load associated with the added appliances. The assumed costs for weatherization align with ESA program costs; electrical panel upgrade costs are budgeted at the market rate.

III.

APPENDIX 2: TABLES FROM AUGUST 3, 2018 RULING

Table III-22

Table 1: Costs by Treatment Type

Southern California Edison		**Treatment A**	**All Treatments**
General	Eligibility Requirements	Households must: 1. Be an SCE customer in good standing; 2. Use propane and wood for heating/cooking; 3. Meet minimum safety and structural standards; 4. Property owner must authorize the work; 5. Agree to provide the energy costs for propane and wood; 6. Home must not have significant code violations; 7. Must participate in the personalized bill impact analysis; 8. California City customers must be CARE customers.	Households must: 1. Be an SCE customer in good standing; 2. Use propane and wood for heating/cooking; 3. Meet minimum safety and structural standards; 4. Property owner must authorize the work; 5. Agree to provide the energy costs for propane and wood; 6. Home must not have significant code violations; 7. Must participate in the personalized bill impact analysis; 8. California City customers must be CARE customers.
	Households proposed for treatment	860	860
	Minimum households to accomplish pilot objectives	860	860
Costs to Ratepayers	BTM costs/hh	$21,529	$21,529
	IFM costs/hh	$8,960	$8,960
	contingency costs/hh	$5,303	$5,303
	Total costs/hh	$35,792	$35,792
Additional costs	Costs hh expected to pay, if any	$0	$0
Budget Requested	Total NEW budget requested	30,781,269	30,781,269
	Leveraged budget from ratepayer ESA Program	1,412,376	1,412,376
	Leveraged budget from ratepayer Emerging Products Program	377,331	377,331
	Total Budget Needed	**28,991,562**	**28,991,562**

Table III-23

Table 2. Summary of Community

California City		
Population	13,972	
Number of hh*	5,254	
Single Family (SF)	439	
Multifamily (MF)	50	
mobile homes	11	
Estimated hh without gas	1,110	
Percent hh without gas	7.9%	
Number of CARE eligible	3,168	
Percent of CARE eligible	90.3%	
Median hh annual income*	$48,776	
Primary source of employment [if known]		
* www.worldpopulationreview.com/us-cities/california-city-ca-population/		

Ducor	
Population*	612
Number of hh	150
Single Family (SF)	129
Multifamily (MF)	0
mobile homes	21
Estimated hh without gas	150
Percent hh without gas	100.0%
Number of CARE eligible	150
Percent of CARE eligible	96.0%
Average hh annual income*	$32,477
Primary source of employment [if known]	
* http://www.city-data.com/city/Ducor-California.html	

West Goshen	
Population	511
Number of hh	210
Single Family (SF)	193
Multifamily (MF)	12
mobile homes	5
Estimated hh without gas	210
Percent hh without gas	100.0%
Number of CARE eligible	210
Percent of CARE eligible	100.0%
Average hh annual income	$45,881
Primary source of employment [if known]	
* http://www.city-data.com/city/West-Goshen-California.html	

Table III-24

Table 3: Projected Changes in Participants' Energy Costs

	Treatment A		
California City	**Single Family**	**Multifamily**	**Mobile Homes**
Pre-pilot estimated average energy costs for households in community	$2,931.55	$1,867.98	$2,081.14
Pre-pilot estimated average energy costs for participating households lacking access to natural gas	$2,931.55	$1,867.98	$2,081.14
Post-pilot estimated energy costs savings	$1,333.76	$810.66	$968.12
propane	$1,684.64	$1,168.93	$1,474.54
wood	$0.00	$0.00	$0.00
natural gas	$0.00	$0.00	$0.00
electricity	$1,246.61	$699.05	$606.56
Total	$2,931.25	$1,867.98	$2,081.10
Post-pilot estimated percent reduction in total energy costs	45.5%	43.4%	46.5%

	Treatment A		
Ducor	**Single Family**	**Multifamily**	**Mobile Homes**
Pre-pilot estimated average energy costs for households in community	$2,759.70	$0.00	$2,591.18
Pre-pilot estimated average energy costs for participating households lacking access to natural gas	$2,759.70	$0.00	$2,591.18
Post-pilot estimated energy costs savings	$1,437.20	$0.00	$1,074.14
propane	$1,684.64	$0.00	$1,474.54
wood	$0.00	$0.00	$0.00
natural gas	$0.00	$0.00	$0.00
electricity	$1,075.06	$0.00	$1,116.65
Total	$2,759.70	$0.00	$2,591.19
Post-pilot estimated percent reduction in total energy costs	52.1%		41.5%

	Treatment A		
West Goshen	**Single Family**	**Multifamily**	**Mobile Homes**
Pre-pilot estimated average energy costs for households in community	$2,714.32	$2,049.84	$2,283.02
Pre-pilot estimated average energy costs for participating households lacking access to natural gas	$2,714.32	$2,049.84	$2,283.02
Post-pilot estimated energy costs savings	$1,481.85	$959.67	$1,130.32
propane	$1,684.64	$1,168.93	$1,474.54
wood	$0.00	$0.00	$0.00
natural gas	$0.00	$0.00	$0.00
electricity	$1,029.68	$880.91	$808.48
Total	$2,714.32	$2,049.84	$2,283.02
Post-pilot estimated percent reduction in total energy costs	54.6%	46.8%	49.5%

Table III-25

Table 4: Total NEW Budget Requested

Table 4: Total NEW Budget Requested					
California City					
Cost Category	**Year 1**	**Year 2**	**Year 3**	**All Years**	**Percent of New Budget (All Years)**
Administrative	$ 166,667	$ 166,667	$ 166,667	$ 500,000	3%
BTM Costs (1)	$ 3,977,820	$ 5,966,730		$ 9,944,549	60%
IFM Costs (3)	$ 1,155,625	$ 866,719	$ 866,719	$ 2,889,062	18%
Marketing & EM&V	$ 581,422	$ 436,067	$ 436,067	$ 1,453,555	9%
Direct Implementation	$ 390,782	$ 502,434	$ 223,304	$ 1,116,519	7%
Workforce Development (2)				$ -	0%
Data Gathering Plan		$ 290,711	$ 290,711	$ 581,422	4%
Total	**$ 6,272,315**	**$ 8,229,326**	**$ 1,983,467**	**$ 16,485,108**	**100%**
Notes					
(1) SCE expects to implement all BTM activity associated with preparing participant homes in year 1; installation of electric equipment will occur in year 2.					
(2) Workforce Development costs are included in the Direct Implementation budget and will be identified during the RFP process.					
(3) IFM Costs includes contingency and audit and inspection costs.					

Table 4: Total NEW Budget Requested					
Ducor					
Cost Category	**Year 1**	**Year 2**	**Year 3**	**All Years**	**Percent of New Budget (All Years)**
Administrative	$ 166,667	$ 166,667	$ 166,667	$ 500,000	9%
BTM Costs (1)	$ 2,983,037			$ 2,983,037	56%
IFM Costs (3)	$ 433,312	$ 216,656	$ 216,656	$ 866,623	16%
Marketing & EM&V	$ 174,407	$ 130,806	$ 130,806	$ 436,019	8%
Direct Implementation	$ 200,951	$ 66,984	$ 66,984	$ 334,919	6%
Workforce Development (2)				$ -	0%
Data Gathering Plan		$ 87,204	$ 87,204	$ 174,407	3%
Total	**$ 3,958,374**	**$ 668,316**	**$ 668,316**	**$ 5,295,005**	**100%**
Notes					
(1) SCE expects to complete electrification of pilot participants in year 1.					
(2) Workforce Development costs are included in the Direct Implementation budget and will be identified during the RFP process.					
(3) IFM Costs includes contingency and audit and inspection costs.					

Table 4: Total NEW Budget Requested

West Goshen

Cost Category	Year 1	Year 2	Year 3	All Years	Percent of New Budget (All Years)
Administrative	$ 166,667	$ 166,667	$ 166,667	$ 500,000	7%
BTM Costs (1)	$ 4,176,251			$ 4,176,251	58%
IFM Costs (3)	$ 606,636	$ 303,318	$ 303,318	$ 1,213,273	17%
Marketing & EM&V	$ 244,170	$ 183,128	$ 183,128	$ 610,426	8%
Direct Implementation	$ 281,332	$ 93,777	$ 93,777	$ 468,886	7%
Workforce Development				$ -	0%
Data Gathering Plan		$ 122,085	$ 122,085	$ 244,170	3%
Total	**$ 5,475,057**	**$ 868,975**	**$ 868,975**	**$ 7,213,007**	**100%**

Notes

(1) SCE expects to complete electrification of pilot participants in year 1.

(2) Workforce Development costs are included in the Direct Implementation budget and will be identified during the RFP process.

(3) IFM Costs includes contingency and audit and inspection costs.

Table III-26

Table 5: Projected Pilot Revenues (annual)

California City	Year 1	Year 2	Year 3 - 20	All Years
Increased gas sales				
Increased electricity sales	$ -	$ -	$ 3,986,221.17	$ 3,986,221.17
CAISO market participation				
Tax credits				
Total	**$ -**	**$ -**	**$ 3,986,221.17**	**$ 3,986,221.17**

Ducor	**Year 1**	**Year 2**	**Year 3 - 20**	**All Years**
Increased gas sales				
Increased electricity sales	$ 54,307.16	$ 55,393.31	$ 1,209,820.74	$ 1,319,521.21
CAISO market participation				
Tax credits				
Total	**$ 54,307.16**	**$ 55,393.31**	**$ 1,209,820.74**	**$ 1,319,521.21**

West Goshen	**Year 1**	**Year 2**	**Year 3 - 20**	**All Years**
Increased gas sales				
Increased electricity sales	$ 77,148.82	$ 78,691.80	$ 1,718,672.85	$ 1,874,513.47
CAISO market participation				
Tax credits				
Total	**$ 77,148.82**	**$ 78,691.80**	**$ 1,718,672.85**	**$ 1,874,513.47**

Table III-27

Table 6: Non-Participant Bill Impacts

California City	Monthly bill impacts	Percent of average monthly bills	Annual bill impacts	Percentage of average annual bills
Residential-CARE	$ 0.07	0.115%	$ 0.83	0.115%
Residential- Non-CARE	$ 0.07	0.070%	$ 0.85	0.070%
Non-Residential	$ 0.48	0.060%	$ 5.77	0.060%

Ducor	Monthly bill impacts	Percent of average monthly bills	Annual bill impacts	Percentage of average annual bills
Residential-CARE	$ 0.02	0.040%	$ 0.29	0.040%
Residential- Non-CARE	$ 0.02	0.025%	$ 0.30	0.025%
Non-Residential	$ 0.17	0.021%	$ 2.03	0.021%

West Goshen	Monthly bill impacts	Percent of average monthly bills	Annual bill impacts	Percentage of average annual bills
Residential-CARE	$ 0.03	0.053%	$ 0.38	0.053%
Residential- Non-CARE	$ 0.03	0.032%	$ 0.39	0.032%
Non-Residential	$ 0.22	0.027%	$ 2.67	0.027%

Table III-28

Table 7: Summary of all Proposed Pilots' Non-Participant Annual Bill Impacts [annual]

SCE	California City	Ducor	West Goshen	Total of all Proposed Pilot Project Bill Impacts
Residential-CARE	0.115%	0.040%	0.053%	0.208%
Residential- Non-CARE	0.070%	0.025%	0.032%	0.127%
Non-Residential	0.060%	0.021%	0.027%	0.108%

Table III-29

Table 8: Estimated GHG and Criteria Air Pollutant Benefits

Southern California Edison	California City	Ducor	West Goshen
GHG Benefits	lbs/yr	lbs/yr	lbs/yr
CO2 reductions	1,822,248	552,337	780,552
CH4 reductions	2,744	835	1,168
Criteria Air Pollution Benefits			
In-home	N/A	N/A	N/A
Outside of home [Particulate Matter from Nat Gas]	31.8	9.7	13.5

Table III-30

Table 10: Summary of Proposed Electric Pilot Projects

Table 10: Summary of Proposed Electric Pilot Projects

California City	Number of hh in community	Number of hh lacking gas access	Number of homes treated in pilot	Annual Savings (hh)($)(Electric)	Energy Savings (hh)(%)(Electric)	To the Meter Costs* (Electric)	Total Cost Estimate (electric)	Total NEW Budget Requested	Estimated cost per hh (electric)
	5254	1110	500			$ 14,263	$16,955,714	$ 16,485,108	$ 32,970
Single Family			439		$ 1,333				
Multifamily			50		$ 811				
Mobile Homes			11		$ 968				

* SCE is interpreting 'To the Meter' costs to be the same as 'In Front of the Meter' Costs.

Table 10: Summary of Proposed Electric Pilot Projects

Ducor	Number of hh in community	Number of hh lacking gas access	Number of homes treated in pilot	Annual Savings (hh)($)(Electric)	Energy Savings (hh)(%)(Electric)	To the Meter Costs* (Electric)	Total Cost Estimate (electric)	Total NEW Budget Requested	Estimated cost per hh (electric)
	150	150	150			$ 14,263	$5,972,316	$ 5,600,194	$ 37,335
Single Family			129		$ 1,437				
Multifamily			0		$ -				
Mobile Homes			21		$ 1,074				

* SCE is interpreting 'To the Meter' costs to be the same as 'In Front of the Meter' Costs.

Table 10: Summary of Proposed Electric Pilot Projects

West Goshen	Number of hh in community	Number of hh lacking gas access	Number of homes treated in pilot	Annual Savings (hh)($)(Electric)	Energy Savings (hh)(%)(Electric)	To the Meter Costs* (Electric)	Total Cost Estimate (electric)	Total NEW Budget Requested	Estimated cost per hh (electric)
	210	210	210			$ 14,263	$7,854,888	$ 7,213,007	$ 34,348
Single Family			193		$ 1,482				
Multifamily			12		$ 960				
Mobile Homes			5		$ 1,130				

* SCE is interpreting 'To the Meter' costs to be the same as 'In Front of the Meter' Costs.

Attachment B

California City Specific Information

California City Specific Information

This Attachment contains California City community-specific supplemental information and should be read in conjunction with the Updated Pilot Proposal in Attachment A.

1. Size and Scope

SCE's pilot will serve up to 500 CARE-eligible customers in California City. SCE is seeking to achieve a reasonable balance between community participation, budget and the need to obtain a valid statistical sample in this community. Unlike West Goshen and Ducor, for which SCE includes all customers due to the small size and different circumstances of those communities, California City has more than a sufficient sample size to gather useful and actionable pilot information.

2. Prioritization of Enrollment

SCE will give priority to CARE- and FERA-eligible customers and will enroll customers who qualify on a first-come, first-served basis until the target participation rate of up to 500 customers is reached. SCE will open enrollment to non-CARE and non-FERA customers if it is unable to enroll up to 500 CARE and FERA customers. Should SCE discover that there is greater interest to participate by both CARE and FERA qualified customers as well as non-CARE and FERA qualified customers, SCE will seek Commission approval to increase the number of treated homes, including the need for additional budget by filing a Tier 2 Advice Letter or other filing as appropriate.

3. Grid Conditions and Project Feasibility

SCE examined the grid conditions in California City as part of this project proposal. After review of reliability history and capacity in California City, SCE determined that the additional electric pilot appliance load does not pose additional risk to existing reliability. Community residents have expressed concerns regarding the frequent and lengthy outages residents experienced in 2017 during SCE's community meeting in California City. SCE regularly maintains and upgrades the local grid and has scheduled another large upgrade

expected in 2020. This upgrade is expected to enhance reliability by providing an additional service point to the area, likely to prevent future occurrences as experienced in 2017.

SCE monitors the distribution system throughout the year to identify potential increases in demand throughout SCE's service territory. Identified increases in demand are included in SCE's annual planning process used to determine where SCE may need to upgrade the grid to accommodate increased capacity needs. In the product offerings section for California City, SCE is cognizant of the need for additional capacity driven by new industry growth in this community. SCE has included these additional capacity requirements in its annual planning process and has begun the work to build out the infrastructure to address these needs. SCE would support one or more community solar installations via the DAC – Community Solar Green Tariff Program which would benefit enrolled customers through a reduced energy charge. SCE would also be interested in studying the potential grid benefits from local community solar installations and would seek to initiate a study funded outside of this proposal.

The electrification pilot offered specifically to California City differs from what was included in the January 31st filing in these ways: 1) appliance electrification may be limited to space heating and cooling and water heating at the customer's option and 2) reduced targeted customer participation to a maximum of 500 with priority to CARE/FERA qualified customers and 3) community solar will be offered through support for the DAC – Community Solar Green Tariff program. SCE is sensitive to some California City customers' concerns towards full appliance electrification as expressed during the Community Workshop held in California City on May 23, 2018. Their concerns are driven by the increased demand on the electric grid from new industries, and past experiences with outages. SCE is addressing demand growth in California City and while SCE does not expect the appliance electrification pilot to have a negative impact on the current conditions in this community, SCE will implement the pilot working closely with the Local Planning department to ensure local grid enhancements are scheduled and implemented in alignment with the scheduled appliance electrification pilot to mitigate any risk.

4. Eligibility Criteria for Pilot Participation

This section describes the eligibility criteria for participation in this pilot. It is anticipated that these criteria will ensure measures and services offered in the community of California City are provided to those customers likely to receive the most meaningful benefits (e.g., increased health, safety, reduced fuel costs, etc.) from the intervention.

The first eligibility criteria are prerequisites for participation. These criteria focus on safety, compliance with state and local codes and standards, and liability. They include:

- Pilot participants must be SCE customers with active residential service account in good standing;
- Participants must lack access to natural gas service;
- The dwelling must meet minimum safety and structural standards to ensure that residents and workers are safe both during the job and for the long-term operation of the new appliances;[1]
- The property owner must timely authorize work on the building;
- The house must not have significant building code violations;[2]
- Pilot participant must agree to provide annual energy costs for propane and wood; and
- Pilot participants must participate in the personalized/customized bill impact calculation to understand how their electric bill will likely change and how their consumption changes and behaviors will drive/affect their overall household energy expenditures.

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1 There is likely a consensus definition of these standards that could be used across all pilots. This could be a topic of discussion at a workshop.

2 This concern has been raised by multiple parties but not fully resolved. Specifically, the concern is that when contractors begin work on homes with significant building code violations, they may incur the obligation to fix and/or report the building code violations. This could create significant financial liability for contractors and/or customers, and delay the implementation timeline. In the case SCE cannot find a definitive answer on this topic, it may also be a useful point of discussion at a workshop.

The second set of eligibility criteria determines what level of services each community resident could receive. In the product offerings, a limited number of customers in the community of California City will be eligible for full or partial electrification. Pilot participants have the option of receiving a lower level of electrification if they elect to do so; however, at a minimum they must agree to electric space heating and cooling and water heater. The criteria will be understandable and clear to participants. SCE's initial suggestions for eligibility criteria are:

- New Installation of, or Conversion to, Electric Appliances: Any customer who (1) uses wood or propane fuel for heating, (2) uses wood or propane-fueled appliances.
- Energy Education and Streamlined Enrollment in Existing Programs: Customers without access to natural gas and income-qualified customers with access to natural gas will have access to in-depth energy education; community meetings and other activities will be open to all residents.[3]
- Data Sharing, including electric billing and usage, propane and wood bills, both in terms of historical usage and agreement to share information going forward
- In general, customers who meet the eligibility criteria outlined above would have access to the pilot offerings, so long as they reside in one of the three communities and are either active SCE residential service account holders or will become during the pilot enrollment phase an active SCE residential service account holder.
- Housing type (e.g., single family, multifamily, mobile home). Customers who reside in multifamily or mobile home residences that use propane, wood, or oils

[3] Energy education could come through a variety of methods including community meetings, direct outreach, etc.

such as kerosene for heating and cooking purposes, would be considered for pilot participation using the same eligibility criteria.[4]

California City households interested in enrolling in the pilot must meet all Pilot eligibility criteria. In addition, SCE will target households eligible for the CARE or FERA rate. SCE will consider non-CARE or FERA customers if we cannot reach the 500 CARE or FERA household target.

[4] While housing type does not affect eligibility for participation, it may affect the suite of offerings available to those customers. For example, weatherization measures for mobile homes may be different from the measures appropriate for single family dwellings. Further, the suite of options available to residents of multi-family housing will depend on additional factors such as the landlord's interest in participation. These topics may benefit from further discussion in a workshop format.

Attachment C

Ducor Community-Specific Information

Ducor Community-Specific Information

This Attachment contains Ducor community-specific supplemental information and should be read in conjunction with the Updated Pilot Proposal in Attachment A.

1. Size and Scope

SCE will offer this pilot to all residents of Ducor, a total of 150 households. SCE proposes to serve the entire community of Ducor due to a combination of factors unique to this proceeding:

- Equity among neighbors with similar levels of need: This community is small, nearly at neighborhood scale. Further, parties to this proceeding have asserted that members of these communities have comparable levels of need, and that CARE enrollment status may not be an effective indicator of need in this limited case.
- Returning at a later date would lose economies of scale: The Community of Ducor is relatively remote, and vendors may incur significant fixed costs associated with serving these communities (e.g., sending personnel and equipment out to the communities, organizing community meetings, etc.). If this pilot were to serve only a portion of the community now, returning at a later date would incur the same set of fixed costs.

2. Prioritization of Enrollment

Since the total population of Ducor is small, approximately 150 households, and the majority of the customers are income-qualified, SCE will target all customers in the Community of Ducor

3. Grid Conditions and Project Feasibility

In developing this pilot proposal, SCE evaluated grid conditions and local reliability in Ducor. In reviewing the community's reliability history, current grid conditions, and planned upgrades in the region, SCE anticipates that the local grid can support this electrification pilot, and this pilot does not pose additional risk to reliability for customers in the region, including both pilot participants and no participating customers.

This pilot was developed in consultation with SCE's Distribution Planning teams, and the project will be implemented in close coordination with that same group. During the planning phase, SCE examined the grid conditions in Ducor as part of this project proposal. After review of reliability history,

grid reliability and capacity, SCE's grid has sufficient capacity to handle the additional electric pilot appliance load, and the load does not pose additional risk to existing reliability.

SCE monitors the distribution system throughout the year to identify potential increases in demand throughout SCE's service territory. Identified increases in demand are included in SCE's annual capital projects planning process used to determine where SCE may need to add circuitry to accommodate increased capacity needs.

4. Eligibility Criteria for Pilot Participation

This section describes the eligibility criteria for participation in this pilot. It is anticipated these criteria will ensure measures and services offered in these communities are provided to those customers likely to receive the most meaningful benefits (e.g., increased health, safety, reduced fuel costs, etc.) from the intervention.

The first eligibility criteria are prerequisites for participation. These criteria focus on safety, compliance with state and local codes and standards, and liability. They include:

- Pilot participants must be SCE customers;
- Pilot participants must lack access to natural gas service;
- The dwelling must meet minimum safety and structural standards to ensure that residents and workers are safe both during the job and for the long-term operation of the new appliances;[1]
- The property owner must timely authorize work on the building;
- The house must not have significant building code violations;[2]
- Pilot participants must agree to provide annual energy costs for propane and wood; and

[1] There is likely a consensus definition of these standards that could be used across all pilots. This could be a topic of discussion at a workshop.

[2] This concern has been raised by multiple parties but not fully resolved. Specifically, the concern is that when contractors begin work on homes with significant building code violations, they may incur the obligation to fix and/or report the building code violations. This could create significant financial liability for contractors and/or customers, and delay the implementation timeline. In the case SCE cannot find a definitive answer on this topic, it may also be a useful point of discussion at a workshop.

- Pilot participants must participate in the personalized/customized bill impact calculation to understand how their electric bill will likely change and how their consumption changes and behaviors will drive/affect their overall household energy expenditures.

The second set of eligibility criteria determines what level of services each community resident could receive. In the product offerings, customers in Ducor will be eligible for full electrification. Pilot participants may receive a lower level of electrification if they elect to do so; however, at a minimum they must agree to electric space heating and cooling and water heater. The criteria will be understandable and clear to participants. SCE's initial suggestions for eligibility criteria are:

- New Installation of, or Conversion to, Electric Appliances: Any customer who (1) uses wood or propane fuel for heating, (2) uses wood or propane-fueled appliances.
- Energy Education and Streamlined Enrollment in Existing Programs: Customers without access to natural gas and income-qualified customers with access to natural gas will have access to in-depth energy education; community meetings and other activities will be open to all residents.[3]
- Data Sharing, including electric billing and usage, propane and wood bills, both in terms of historical usage and agreement to share information going forward
- Customers who meet the eligibility criteria outlined above would have access to the pilot offerings, so long as they reside in one of the three communities and are either active SCE residential service account holders or will become during the pilot enrollment phase an active SCE residential service account holder.
- Housing type (e.g., single family, multifamily, mobile home). Customers who reside in multifamily or mobile home residences that use propane, wood, or oils such as kerosene for heating and cooking purposes, would be considered for pilot participation using the same eligibility criteria.[4]

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[3] Energy education could come through a variety of methods including community meetings, direct outreach, etc.

[4] While housing type does not affect eligibility for participation, it may affect the suite of offerings available to those customers. For example, weatherization measures for mobile homes may be different from the measures

appropriate for single family dwellings. Further, the suite of options available to residents of multi-family housing will depend on additional factors such as the landlord's interest in participation. These topics may benefit from further discussion in a workshop format.

Attachment D

West Goshen Community Specific Information

West Goshen Community-Specific Information

This Attachment contains West Goshen community-specific supplemental information and should be read in conjunction with the Updated Pilot Proposal in Attachment A.

1. Size and Scope

SCE will offer this pilot to all residents of West Goshen, a total of 210 households. SCE proposes to serve the entire community of West Goshen due to a combination of factors unique to this proceeding:

- Equity among neighbors with similar levels of need: This community is small, nearly at neighborhood scale. Further, parties to this proceeding have asserted that members of these communities have comparable levels of need, and that CARE enrollment status may not be an effective indicator of need in this limited case.
- Returning at a later date would lose economies of scale: The Community of West Goshen is relatively remote, and vendors may incur significant fixed costs associated with serving these communities (e.g., sending personnel and equipment out to the communities, organizing community meetings, etc.). If this pilot were to serve only a portion of the community now, returning at a later date would incur the same set of fixed costs.

2. Prioritization of Enrollment

Since the total population of West Goshen is small, approximately 200, and the majority of the customers are income-qualified, SCE will target all customers in the West Goshen community.

3. Grid Conditions and Project Feasibility

To develop this pilot proposal, SCE evaluated grid conditions and local reliability in West Goshen. Based on the community's reliability history, current grid conditions, and planned upgrades in the region, SCE anticipates that the local grid can support this electrification pilot, and that this pilot does not pose additional risk to reliability for customers in the region, including customers who participate in the pilot and those who do not.

This pilot was developed in consultation with SCE's Distribution Planning teams, and the project will be implemented in close coordination with that same group. SCE examined the grid conditions

in West Goshen as part of this project proposal. After review of reliability history, grid reliability and capacity, SCE's grid has sufficient capacity to handle the additional electric pilot appliance load, and the load does not pose additional risk to existing reliability.

SCE monitors the distribution system throughout the year to identify potential increases in demand throughout SCE's service territory. Identified increases in demand are included in SCE's annual capital projects planning process used to determine where SCE may need to add circuitry to accommodate increased capacity needs.

4. Eligibility Criteria for Pilot Participation

This section describes the eligibility criteria for participation in this pilot. It is anticipated these criteria will ensure measures and services offered in these communities are provided to those customers likely to receive the most meaningful benefits (e.g., increased health, safety, reduced fuel costs, etc.) from the intervention.

The first eligibility criteria are prerequisites for participation. These criteria focus on safety, compliance with state and local codes and standards, and liability. They include:

- Pilot participants must be SCE customers;
- Participants must lack access to natural gas service;
- The dwelling must meet minimum safety and structural standards to ensure that residents and workers are safe both during the job and for the long-term operation of the new appliances;[1]
- The property owner must timely authorize work on the building;
- The house must not have significant building code violations;[2]
- Pilot participant must agree to provide annual energy costs for propane and wood; and
- Pilot participants must participate in the personalized/customized bill impact calculation to

[1] There is likely a consensus definition of these standards that could be used across all pilots. This could be a topic of discussion at a workshop.

[2] This concern has been raised by multiple parties but not fully resolved. Specifically, the concern is that when contractors begin work on homes with significant building code violations, they may incur the obligation to fix and/or report the building code violations. This could create significant financial liability for contractors and/or customers, and delay the implementation timeline. In the case SCE cannot find a definitive answer on this topic, it may also be a useful point of discussion at a workshop.

understand how their electric bill will likely change and how their consumption changes and behaviors will drive/affect their overall household energy expenditures.

The second set of eligibility criteria determines what level of services each community resident could receive. As stated in the product offerings, customers in West Goshen will be eligible for full electrification. Pilot participants may receive a lower level of electrification if they elect to do so; however, at a minimum they must agree to electric space heating and cooling and water heater. The criteria will be understandable and clear to participants. SCE's initial suggestions for eligibility criteria are:

- New Installation of, or Conversion to, Electric Appliances: Any customer who (1) uses wood or propane fuel for heating, (2) uses wood or propane-fueled appliances.
- Energy Education and Streamlined Enrollment in Existing Programs: Customers without access to natural gas and income-qualified customers with access to natural gas will have access to in-depth energy education; community meetings and other activities will be open to all residents.[3]
- Data Sharing, including electric billing and usage, propane and wood bills, both in terms of historical usage and agreement to share information going forward
- Customers who meet the eligibility criteria outlined above would have access to the pilot offerings, so long as they reside in one of the three communities and are either active SCE residential service account holders or will become during the pilot enrollment phase an active SCE residential service account holder.
- Housing type (e.g., single family, multifamily, mobile home). Customers who reside in multifamily or mobile home residences that use propane, wood, or oils such as kerosene for heating and cooking purposes, would be considered for pilot participation using the same eligibility criteria.[4]

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[3] Energy education could come through a variety of methods including community meetings, direct outreach, etc.

[4] While housing type does not affect eligibility for participation, it may affect the suite of offerings available to those customers. For example, weatherization measures for mobile homes may be different from the measures appropriate for single family dwellings. Further, the suite of options available to residents of multi-family housing

will depend on additional factors such as the landlord's interest in participation. These topics may benefit from further discussion in a workshop format.

Attachment E

SCE Comments on Questions

Contained in Attachment 1 of the August 3, 2018 Ruling

SCE Comments on Questions Contained in Attachment 1 of the August 3, 2018 Ruling

Below, SCE responds *in italics* to Questions from the August 3, 2018 Ruling on Pilot Projects in the San Joaquin Valley Rulemaking (R.15-03-010).

1. Pilot Project Objectives: Below are the proposed primary objectives for the potential pilot projects. Parties are to provide comment on whether additional primary objectives should be included and why:

    a. Gather inputs to assess cost-effectiveness and feasibility during Phase III.
    b. Provide equitable access to affordable energy options in participating communities.
    c. Reduce household energy burden for participating customers.
    d. Increase health, safety and air quality of communities.
    e. Explore gas financing options.
    f. Test approaches to efficiently implement programs.
    g. Assess potential scalability.

SCE supports the proposed primary objectives for potential pilot projects listed above and does not recommend any additional objectives at this time.

2. Pilot Project Selection Criteria

    a. Should the Commission use the Office of Ratepayer Advocate's (ORA's) proposed Participant Value Ratio approach to set community pilot project budgets and/or to approve pilot projects, and if so, how (see Attachments 6-7)?

SCE does not support the use of ORA's proposed Participant Value Ratio (PVR) approach to set community pilot project budgets and/or to approve pilot projects. One significant reason that SCE cannot support the use of the PVR at this time is that SCE does not have sufficient information to calculate the PVR of its pilot proposals with reasonable certainty. Until that information is available, SCE cannot calculate the PVR nor determine whether the PVR is an appropriate tool to determine whether to move forward with a project in this

proceeding. One of the key learnings from SCE's pilot proposal will be to better understand and measure the costs and benefits of its pilot proposal. However, during the pilot evaluation phase, the PVR could provide a useful additional perspective to evaluate pilot performance.

b. The June 6, 2018 Administrative Law Judges' Ruling set out draft Pilot Project Selection Criteria. We have modified these and set forth below the criteria we intend to use to approve pilot projects. Parties are requested to provide comment on whether any important factors are missing and how the criteria should be weighed in terms of the most important and least important areas of consideration.

Community Support and Benefits

- Pilot is supported by community, includes plans for continuous community engagement (including with hard-to-reach households), and includes a feedback loop to incorporate lessons-learned and qualitative feedback as pilots develop;
- Pilot advances community benefits including improvements to health, safety, reliability and air quality;
- Pilot includes local hire goals and/or a workforce development plan;

Affordability for Participating Households and Reasonableness of Costs to Ratepayers

- Pilot includes bill protection during and after the pilot and/or takes other steps to ensure cost savings and affordability for participants;

Average behind-the-meter cost per household does not exceed $22,500, and average total cost per household does not exceed $30,000 to $35,000;[1]

Pilot Replicability and Value

- The questions or assumptions the pilot will test are clear, incremental to what is already known and, across pilots, diversified;

[1] Note: Cost levels are proposed as averages to assess pilot budgets, not as per household spending caps.

- Pilot is scaled appropriately to achieve its objectives: (i.e., the pilot includes sufficient changes in access to affordable energy amongst a sufficient diversity of households to test the target assumption or approach and provides a clear rationale for the participation of households beyond this level).
- Pilot will produce useful data in an appropriate timeframe (i.e. pilot can be completed within 1-2 years and pilot evaluation study can be completed within 2-2.5 years; for pilots proposing longer timeframes, proposal includes discussion of how a longer time frame will not delay consideration of pilot results and extension of promising approaches to other San Joaquin Valley disadvantaged communities (SJV DACs).
- Non-ratepayer funding sources may be available to support pilot project implementation.

Additional Considerations

- Pilot contributes to economic development in host community.
- Pilot minimizes inconvenience to participating households.

SCE ranks the prudent use of ratepayer funds and clear pilot definitions of scope and objectives as the highest priority. Pilots that are approved should be feasible and should achieve the goals and objectives listed in question #1 above. SCE also supports the use of pilots to gather data and learnings that can be used to inform scalability, replicability, and cost effectiveness of pilots in later phases of this proceeding.

3. Community Approach:

   a. Parties are requested to provide comments on the following: We intend for the pilots to provide for a "community approach" where all households in a given pilot host community are provided the opportunity to participate in some way (e.g. including, at minimum, access to bill discounts and/or installation of Energy Savings Assistance (ESA) weatherization measures for

eligible households, for example). We also intend to limit participation based on income eligibility (or to scale subsidies based on resident income levels), and that a mechanism is in place to determine whether the community supports the pilot project proposed.

SCE supports applying a "community approach" and limiting participation based on income eligibility. However, when prudent, SCE recommends considering the size, makeup, and demographics of the communities to implement the pilots.

SCE supports providing a community approach in smaller and more homogeneous communities such as Ducor and West Goshen, which each have less than 210 residents without access to natural gas. A community approach for these small communities is more cost-effective because the incremental cost to implement the pilot to a subset of residents that may not be income-qualified would likely be small compared to the cost of revisiting these communities to provide similar services at a later stage in this proceeding. For West Goshen and Ducor, approximately 99% of the population is low income-qualified. Not limiting the pilots to income-qualified customers would expand the participant number by less than 10 households for both communities at an incremental cost of less than $22,000 per household. This modest incremental cost would prudently be applied to help the most underprivileged residents in these communities and for the greater San Joaquin Valley.

On the other hand, California City is more populated and has a more diverse customer base. Approximately 65% of the customers are CARE program eligible. Of those customers, SCE has allocated budget to treat up to 500 homes.

SCE believes that a community approach would not be the best use of funds in California City as one of SCE's objectives for SCE's pilot is to bring more cost-effective energy sources to our customers who are most underserved by targeting customers without access to natural gas. Furthermore, to prudently use funds to help those that need it the most, SCE further narrows customer eligibility to those who are income-qualified for California City. The criteria to limit

customer participation based on income level is intended to focus the California City pilot on the most needy customers while promoting prudent use of pilot funds.

b. San Joaquin Valley Disadvantaged Communities (SJV DACs) have been requesting access to natural gas for as long as 70 years in some cases (adopting city or community resolutions, for example). How should the Commission consider this historic inequity of service and the resulting increased energy costs to residents over this period when developing budget caps?

At this time, SCE does not have an opinion on how the Commission should consider the historic inequity of service when developing budget caps.

4. Workforce Development / Local Hire / Landlord-Tenant Issues

a. Based on the California Energy Commission's Low-Income Barriers Report, we intend that each approved pilot project work with the host community to put in place a community workforce agreement that sets forth processes and/or targets to hire community and/or county residents for pilot project employment for which they are, or can be, suitably trained.[2] Please comment.

SCE's goal is to work with local contractors and Community Based Organizations (CBOs) during the implementation of this pilot. SCE considers the opportunity to working with local community businesses and CBOs, which are invested in the pilot communities, as an important component of this effort. SCE will issue a Request for Proposal (RFP) to identify knowledgeable, local contractors (where available) who value local workforce development and community engagement for the jobs related to all phases of the proposed pilot. SCE, however, will not compromise the quality and safety aspects of the pilots.

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[2] California Energy Commission Final Report, "Low-Income Barriers Study, Part A: Overcoming Barriers to Energy Efficiency and Renewables for Low-Income Customers and Small Business Contracting Opportunities in Disadvantaged Communities," (2016) at 76. http://www.energy.ca.gov/sb350/barriers_report/

To achieve these goals, SCE will leverage the RFP process to select partners where appropriate with business strategies that include hiring, developing and training local residents. In addition, the RFP will include requirements for the following certifications and workforces standards:

- *General Contractor (GC) license, HVAC certified technicians and licensed plumbers;*
- *Years of experience to be commensurate with high performance requirements;*
- *Strong safety record;*
- *Strong customer satisfaction.*

b. Should the Commission consider requiring a coordinated approach to local hire and/or workforce development across approved pilot projects (for example, that pilot project implementers collectively contract with a single contractor for this element, or a similar approach)?

To the extent that multiple pilots are implemented within a given distance from one another and utilize similar skilled workforce, SCE supports the preference for pilot implementers to coordinate their approach to local hire and/or workforce development to gain cost, logistical, and timing efficiencies. The Commission should not require a coordinated approach as the pilots may be diverse in nature and efficiencies may not be achieved.

c. Please comment: We intend to establish a Pilot Project Working Group that meets at least quarterly, with logistical support provided by an investor-owned utility (IOU), to coordinate on a range of issues, including:

   i. Best practices in local hire, workforce development and/or landlord tenant challenges
   ii. Harmonizing data collection formats and templates for eventual sharing with Data Gathering Plan effort;
   iii. Leveraging external funds (Electric Program Investment Charge [EPIC], etc.)

SCE supports quarterly meetings supported by an IOU to address the range of issues such as workforce development, landlord/tenant issues, data collection formats and templates that will inform the Data Gathering Plan, best practices to leverage existing program funds, and other issues. To supplement these quarterly meetings, SCE proposes regular teleconferences as needed to monitor progress on pilots and identify opportunities to modify or improve pilot implementation based on data and information gathered across the various pilots.

d. Should the Commission require approved pilot projects to investigate how best to obtain assurances from property owners that they will:

   i. Not increase rent based on household improvements resulting from the pilot project; and/or

   ii. Guarantee right of return for residents temporarily out of properties during pilot project construction, including any legal considerations.

Pilot implementers, including SCE, cannot enforce assurances from property owners to guarantee no increase in rents or right of return to the property, however, pilot implementers should educate both landlords and tenants regarding the benefits of pilot participation. CBOs will assist SCE in facilitating tenant/landlord participation. The CBO will also engage the property managers when necessary to ensure all parties are aware of the pilot, benefits and eligibility criteria.

Both tenants and property owners are likely to benefit with the tenant realizing a decrease in total energy costs and the latter receiving relevant property improvements. SCE's enrollment form will reflect the need for both landlord and tenant engagement (mutual consent) and agreement (consent) to participate in the pilot. The terms, application, and enrollment process will include language restricting rent increases for pilot -related property upgrades, although research[3] on similar interventions show that restricting rent increases is difficult. SCE will examine these potential impacts on tenants of treated dwellings through the duration of the

[3] Available at: https://efiling.energy.ca.gov/GetDocument.aspx?tn=211054. The Cadmus Group Inc., *Energy Savings Assistance Program Multifamily Segment Study* (December 4, 2013).

pilot. Likewise, as part of the evaluations and market characterization, housing type and ownership[4] data will be collected from both participants and nonparticipants in these communities to understand how different pilot benefits are ultimately distributed.
SCE's Multifamily Energy Efficiency Rebate Program has not included levers for controlling rent increases and have also recognized property owners may elect to increase rents based on market forces.

5. Financing Options for Gas Extensions

   a. We believe it would be in the communities and ratepayers best interest to consider various approaches to finance gas line extensions, to the extent that a natural gas pilot project is considered. Commission staff presented the options and rationales set forth below at the July 23-24 Workshop. Please provide comment considering the following questions.

      i. Which of the following options best achieves the energy affordability and cost reasonableness goals of the pilots? How should poverty/equity be considered? How should electricity reliability be considered?
      ii. Should any of the options be modified and if so, how?
      iii. Could any of the options be blended and, if so, how?
      iv. Could any of the options partially cover extension costs and if so, how?
      v. For Option 3, what shareholder incentive level for what length of time would be appropriate?
      vi. Are there additional options discussed in the recent report of the National Association of Regulatory Utility Commissioners (NARUC) Task Force on Natural Gas Access and Expansion that are appropriate to consider for SJV DAC pilots?

Option 1: Socialize project costs:

[4] Differentiate between subsidized/Section 8 and market rate rentals as there are different rules.

- Proposed option: Socialize the costs for gas (costs to be paid by all gas ratepayers)
- Rationale: Equity and qualitative considerations, and piloting behind-the-meter work

Option 2: Partnering with other utilities:

- Proposed option: Gas projects would partner with water, telecommunications, and/or sewer utilities to share project costs (trenching, etc.) and implement improvements in those areas as well.
- Rationale: Cost-sharing may be appropriate if there are significant mutual cost-savings.
- Approach would require the community and gas utility to coordinate with local utilities and would require determining a cost share allocation approach.

Option 3: Incentive Program design

- Proposed option: Use an incentive structure based on existing/ proposed designs, where gas shareholders pay project costs and retain revenues
- Rationale: Shareholders would finance upgrades and revenues from resulting consumption would go to shareholders for some period of time (e.g. five years).

SCE does not have any comments on gas financing approaches at this time.

6. Specific Questions on Additional Pilot Needs

   a. Should on-bill financing/repayment programs be developed, if so, why and how? What are the potential challenges? If the Commission prioritizes lower-income residents for participation in pilot projects, could on-bill financing be a way for higher-income customers to participate in community efforts to deploy more affordable technologies?

SCE does not support use of on-bill financing at this time as its all-electrification pilots target low-income customers with little to no appetite or financial means for cost-sharing. SCE's current on-bill financing is not available for residential customers and if the Commission proposes to implement this program for SCE pilots, SCE's on-bill financing program must be modified. If other pilot implementers propose to pilot on-bill financing for their pilots, this may

create learning opportunities for SCE to understand if this type of program can encourage higher income customers to participate in future programs that would require cost-sharing.

b. Should the pilot projects use bulk purchasing of appliances to bring down program costs?

To the extent Pilot implementers offer the same appliances, a bulk purchase would deliver cost efficiencies across all pilots. However, this would require the various implementers to collaborate and establish a selected appliance list which may create additional challenges as pilots may be designed with a particular appliance type or require a particular appliance specification.

c. Should all pilot participants be required to share data on home energy usage and bills, both pre- and post-pilot?

SCE supports requiring customers to provide data on home energy use and pre- and post- pilot bills as a requirement for pilot participation. One objective of SCE's pilots is to gather specific customer information to determine scalability and customer impacts on bills, including home energy usage and pre- and post-pilot bills. However, customers also have the right to privacy, which parties and the Commission will have to protect.

d. Should increased electric subsidies (i.e. further bill discounts not associated with a disadvantaged community green tariff shared renewables [DAC GTSR] or DAC Community Solar tariff) be deployed in any of the pilots, if so, why and what are the potential challenges?

SCE will educate and support customer enrollment in All-Electric rates for SCE's participating pilot customers for increased subsidized rates, however customers must meet requirements to qualify. SCE pilot participants who install electric space heating/cooling systems will qualify for this subsidized rate program.

e. What is the appropriate definition of low-income for the purposes of the pilot projects, CARE/FERA-eligible? What might serve as a suitable guide for income eligibility not based on CARE/FERA?

SCE defines low income consistent with CARE- and FERA- approved income levels. CARE and FERA approved income levels are adjusted annually, and are based on number of people residing in the home. An alternative for income eligibility not based on CARE and FERA that might be suitable would be use of an area or community-based income level. This would support the application of pilots implemented community-wide; however, it may also add complexities regarding equity across community members.

f. How should the issue of propane /wood cooking be addressed in the context of electrification pilots? Should outreach be conducted to inform residents of the benefits of electric/induction cooking, including lending of induction cooktops to residents to test and assess the technology? For households using propane/wood that were to receive only a heat pump water heater (HPWH) and/or heat pump space heater (HPSH) as part of the pilot phase, would there remain any need for the Commission to expand affordable energy options to these households subsequent to the pilot?

SCE's electrification pilots include offering of 4 appliances (heat pump water heater, heat pump heating and cooling, electric induction stove, and an electric dryer) for each qualified home treated. SCE's current ME&O plans include community based electric cooking demonstrations. However, SCE does not propose to "lend" electric/inductive stoves as part of its program. Based on SCE's pilot strategy, there would be no need for the Commission to expand affordability options to these same households.

g. Should solar thermal technologies be deployed in any of the pilots, if so, why and what are the potential challenges?

SCE does not plan to incorporate solar thermal technologies in its pilots and does not have an opinion on whether solar thermal technologies should be deployed in any of the pilots.

h. Should the pilot phase test geothermal heat pump technology in the SJV DAC pilot host communities? If so, how?

SCE does not plan to incorporate geothermal heat pump technology in its pilots and does not have an opinion on whether solar thermal technologies should be deployed in any of the pilots.

7. Specific Questions on the Utility Reform Network (TURN) Concept Presentation

a. Should TURN's proposal on heat pump water heaters (HPWH) and heat pump space heaters (HPSH) be deployed, and if so, in one or more host communities? If you think it should be deployed, how should this happen, as a free-standing pilot or as a set of treatment options and approaches integrated with one or more s? Please comment.

TURN's HPWH and HPSH concept may only achieve some of the goals in this proceeding if deployed as a free-standing pilot. Customers receiving only the 2 proposed appliances may still rely on propane and/or wood as a fuel source for cooking and clothes drying. In addition, weatherization of the home is a key element of the treatment to support the energy efficiency associated with the electric appliances (specifically home space heating and cooling) as the envelope of the home must be adequately sealed to prevent heat and cooling air loss. TURN's HPWH and HPSH concept should be integrated with a set of other possible treatment options including weatherization.

b. Should a HPWH and/or HPSH pilot project or measure include bill guarantees for participants? Should it test new "high-electric use" rates?

SCE does not propose bill guarantees because: Bill protection does not support efficient use of the appliance and can promote overuse (e.g. cooling your home to 65 degrees 7x24) associated with energy costs. SCE's approach is to monitor actual household energy consumption post-pilot to verify results as part of the pilot learning(s). Bill protection also creates inequities across the customer population. During SCE's monitoring of energy consumption post-appliance install, SCE will work with customers where customers' total energy costs have gone up, including recommending appliance adjustments for energy savings and programs to help customers manage their bill. SCE will also monitor for malfunction of appliance (appliance not performing as expected) during the pilot.

c. If approved for piloting, should HPWH and/or HPSH technologies be equipped with communicating devices and participate in the California Independent System Operator (CAISO) market via third party or investor-owned utility (IOU) demand response (DR) programs? Is broadband and/or internet access a limiting factor?

SCE supports a study of HPWH technology with communicating devices. However, they should not participate in the CAISO market as the technology has not yet been proven effective, scalable or assessed for inclusion in existing DR programs. Grid connected HPWHs are still in an early product development stage and other CPUC activities are exploring this area (e.g., Demand Response for DAC pilots). Also, internet access is required for HPWH with a communicating device and broadband penetration is typically smaller for lower income communities. SCE has proposed a limited offering to a small number of participating customers to study grid-responsive HPWH to inform the technology's feasibility for future DR programs. Please see SCE's updated pilot proposal for details.

d. Should PG&E's application[5] seeking approval of its proposed 2018 AB2868 Storage Investments and Programs be taken into account in HPWH pilots, and if so, how?

SCE has no comment on other pilot proposals use of other program funds.

e. Is it realistic that there is potential for behavioral change (i.e. precooling or lower/higher set points for air conditioners, HPWH and/or HPSH devices) amongst SJV DAC residents given their locations in hot climate zones?

SCE has worked with a technology vendor to test the effects of connected technologies such as a smart thermostat. Based on these analyses small incremental changes to set points of the thermostat can result in lowering HVAC cooling use and cost and would be applicable for SJV DAC residents in hot climate zones. Customers for the most part are not aware of the small change and will not override the setting. Based on SCE's experience in its residential smart thermostat demand response program, precooling can help to shift the load from peak to prepeak.

f. Should installation of all feasible ESA weatherization measures be required for households receiving a HPSH, why/why not?

SCE supports the installation of all feasible ESA weatherization measures for those pilot participants receiving a HPSH to the extent it does not increase costs significantly. This will enable the most efficient use of the HPSH and help keep customers' bills manageable. However, the Commission should not make this a requirement as the condition of each home will be unique and some homes may require significant costly upgrades to support ESA weatherization measures.

[5] A.18-03-001.

g. Should CARE eligibility requirements be applied to piloting HPWHs and/or HPSH?

SCE does not support restricting the piloting of HPWHs and HPSHs to CARE eligible customers. For SCEs smaller communities of West Goshen and Ducor, SCE plans to offer all customers, who are mostly CARE eligible customers, all pilot offerings including HPWH and HPSP to increase participation levels in these communities. However, for SCE's largest community in California City, SCE's pilot offerings are targeted for CARE eligible customers for budget containment purposes.

h. Should homes with electric resistance heating be eligible to receive upgrades to a HPSH as part of a pilot project, or only homes currently heating with propane or gas?

SCE's pilots support converting less efficient electric resistant space heaters to the more efficient heat pump space heating and cooling systems based on elibility requirements.

i. How should any "rebound effect" (i.e. increased energy usage for space and/or water heating as a result of the installation of more efficient equipment) be assessed?

SCE's pilots are designed to switch customers from propane/wood space and/or water heating to electric. To evaluate any "rebound effect" a baseline for existing space and/or water heating using propane and/or wood would need to be established. This information will be collected via the data gathering phase of SCE's pilots. Additionally, baseline conditions for cost-effectveness calculations would need to be established by the Commission for fuel switching and the applicability of the three-prong test which is still under consideration in R.13-11-005.

j. Any additional comments or recommendations.

SCE does not have any additional comments or recommendations.

8. Phase III Economic Feasibility Framework

Please comment on the following:

a. We intend to establish an Economic Feasibility Framework (EFF) Working Group that can continue the work of parties on the Joint Economic Feasibility Standard. The Working Group will report bi-yearly on its activities and provide recommendations as feasible. The Working Group will receive logistical support from an investor-owned utility, meet at least once quarterly and have the following scope:

   i. Identify if cost-benefit tests under development in other proceedings[6] may be appropriate to adapt for use in this proceeding, or if a new test should be developed; and, provide a list of the costs and benefits needed to modify the identified test, as feasible.

   ii. Identify the appropriate cost-benefit test to assess cost impacts to other ratepayers;

   iii. Identify lessons learned from other models that may be appropriate to reflect in a SJV DAC EFF, including from examples presented at the July 23-24, 2018 R.15-03-010 workshop or elsewhere;

   iv. Support communication and/or coordination across related Commission proceedings and/or activities, such as the Disadvantaged Communities Advisory Group.

SCE supports an Economic Feasibility Framework (EFF) Working Group to report bi-yearly on activities and to provide guidance as necessary. The scope as described above is

6 For example, the ESA proceeding Cost Effectiveness Test (see D.16-11-022), the ESA Net Energy Benefits Test, and/or the Integrated Distributed Energy Resources (IDER) proceeding (R.14-10-003) Societal Cost Test.

reasonable and should be vetted by the IOUs for modifications including the development of a process to select members of the Working Group, identify funding sources and cost allocation as appropriate.